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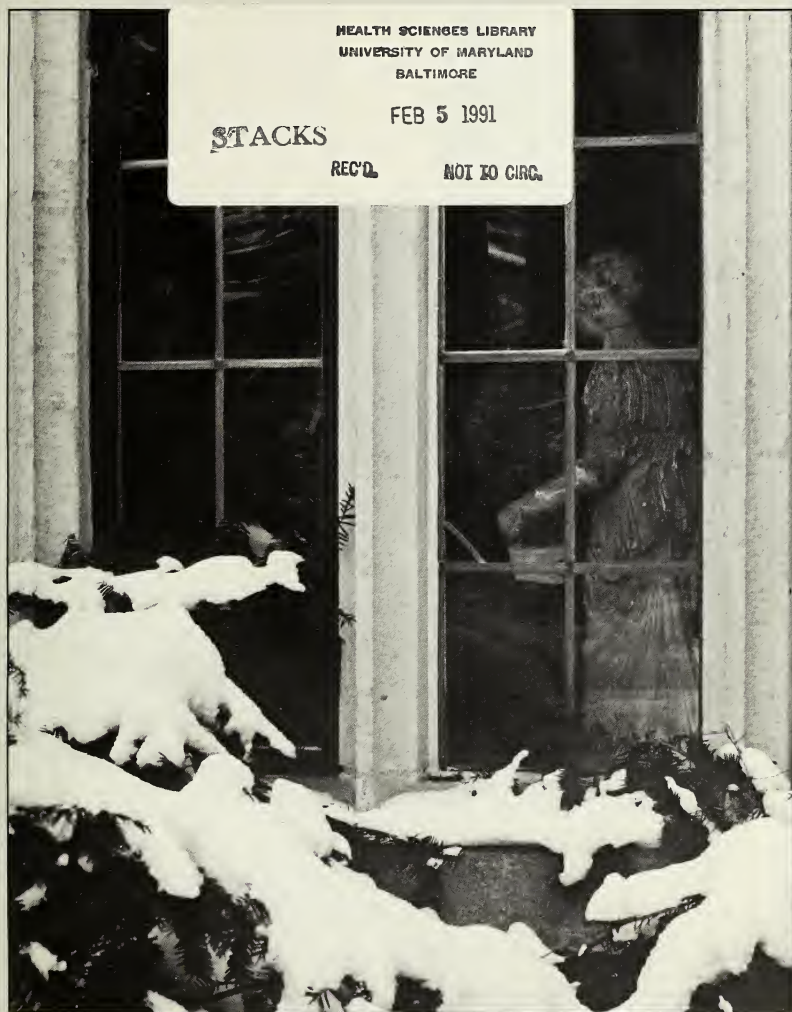


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# Iowa Medicine

January 1991

Journal of the Iowa Medical Society



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# IowaMedicine

Volume 81 Number 1

Journal of the Iowa Medical Society

January 1991

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#### 8 Medical Volunteerism . . . You Get More Than You Give

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**Robert McCool, M.D.**

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*This study of cases reported to the state health department is an attempt to shed light on who suffers toxic shock and why.*

**Charles Helms, M.D., Ph.D., Laverne Wintermeyer, M.D.**

### About the Cover

This view of a statue through a back window of Salisbury House in Des Moines caught the eye of Des Moines amateur photographer Carolyn Tenney. Ms. Tenney says she is fond of photographing "things that have an aura of the past about them." She and her husband, also an amateur photographer, are renovating a 3-story Victorian-era house in east Des Moines. Her other full time job is as an advertising account executive for the *Des Moines Register*.



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### About the Cover

Otis Wolfe, M.D., a Marshalltown ophthalmologist, captured the shadows and angles of these Greek ruins while on a vacation in Greece during the early 1960s. The photo, taken in the ruins of an *agora* (marketplace), was a gift to an IMS staff member of Greek heritage.



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**TOPICS**

**"LYME DISEASE AND LABORATORY TESTING"**

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**"NONSTEROIDAL GASTROPATHY: CURRENT  
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### About the Cover

Des Moines, the site of the April 19-21 IMS Annual Meeting, has several recognizable buildings, one of which houses the Iowa Historical Museum. This photo was taken by amateur photographer Edward Birmingham, a graphic specialist for Meredith Publishing. Mr. Birmingham chose the building as a subject because of its dramatic black and white contrast.

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### About the Cover

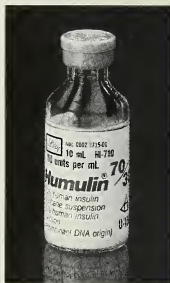
Diagnosis by computer is just one of the prevention technologies in use at the University of Iowa. See page 149 for more about the cover.

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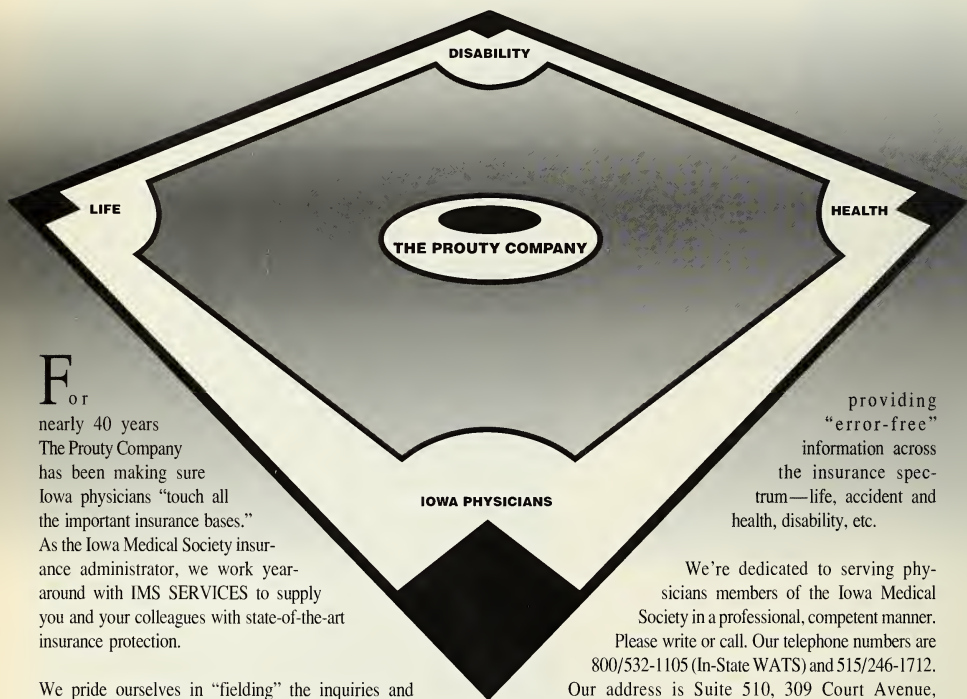
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### About the Cover

"I respond to what I see," replies Dr. Charles Read of Iowa City when asked about his favorite subjects to photograph. From the looks of this month's lovely cover photo, Dr. Read has a good eye. A retired pediatric endocrinologist with University Hospitals, Dr. Read took up photography 5 years ago and kindly allowed us to use this picture of working boats in the harbor at Blue Rocks, Nova Scotia. Dr. Read grew up in Nova Scotia and says it is "beautiful and unspoiled."

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*Time is a priceless commodity in dealing with sudden cardiac death.*

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**Jan Courtney Clyde, M.D., G. Patrick Kealey, M.D., Kimberly S. Ephgrave, M.D.**

### About the Cover

When Waterloo residents dressed in appropriate uniforms and played out a Civil War Battle, Waterloo artist Jill Adams took photographs and later painted the compelling watercolor "The Reenactment." Ms. Adams is a signature member of the Iowa Watercolor Society, but also works in other mediums. On July 19, she will be doing portrait sketches at University of Northern Iowa's College Hill Arts Festival in Cedar Falls.

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### About the Cover

This huge flag which flies over a Des Moines car dealership makes a timely subject for July's cover. The photo was taken late one afternoon by Dan Hodges, a senior programmer analyst for Kirke Van Orsdel in Des Moines. Photography has been a "serious hobby" for Mr. Hodges for 10 years. He prefers to take black and white photos which "entice the viewer to look at the subject differently."



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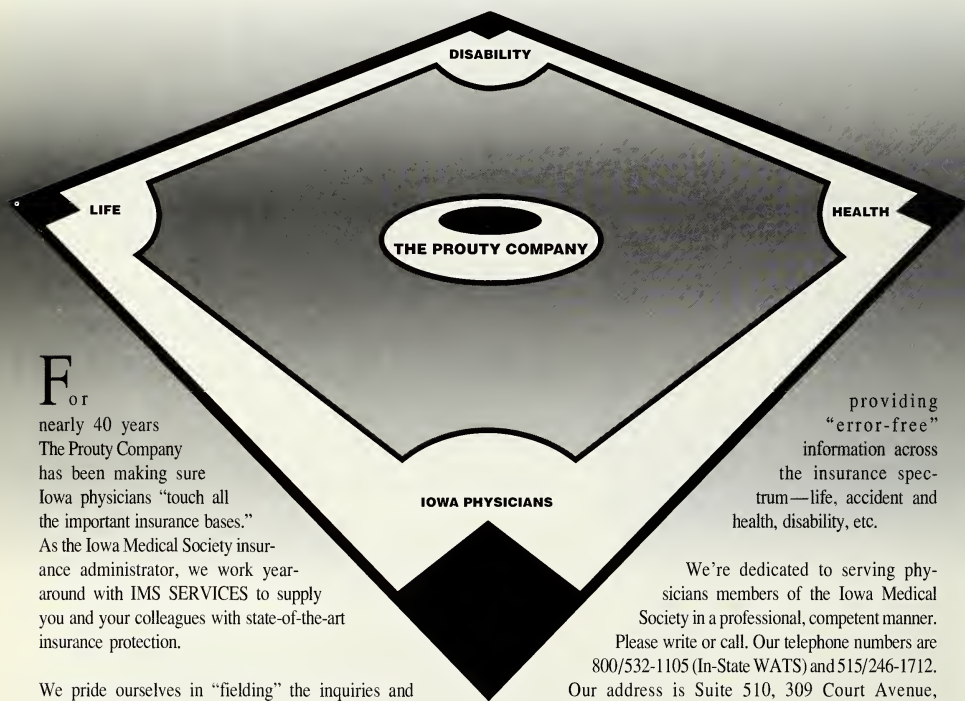
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**Robert Dreicer, M.D., M.S., William See, M.D.,  
Richard Williams, M.D.**

### About the Cover

Dr. Gerald Howe of Iowa City retired from his orthopedic practice in 1988, partly to give himself more time for wildlife photography, and many wonderful photographs like this one have been the result. Dr. Howe took this shot of 3 lazy lions draped on a tree branch during a trip to Eastern Africa. Earlier this year, a collection of Dr. Howe's photographs were on display at the University Athletic Club in Iowa City.

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**Jane Getchell, Dr.P.H., W. J. Hausler, Jr., Ph.D., Michael Ramirez**

## About the Cover

This baby bottle full of extremely unhealthy items dramatically illustrates the Iowa Department of Public Health's "When you use, so does your baby" campaign. The baby bottle, which was provided for use on this month's cover by the IDPH Division of Substance Abuse, appears on all campaign materials. For information on ordering these materials, see this month's In the Public Interest, page 414.



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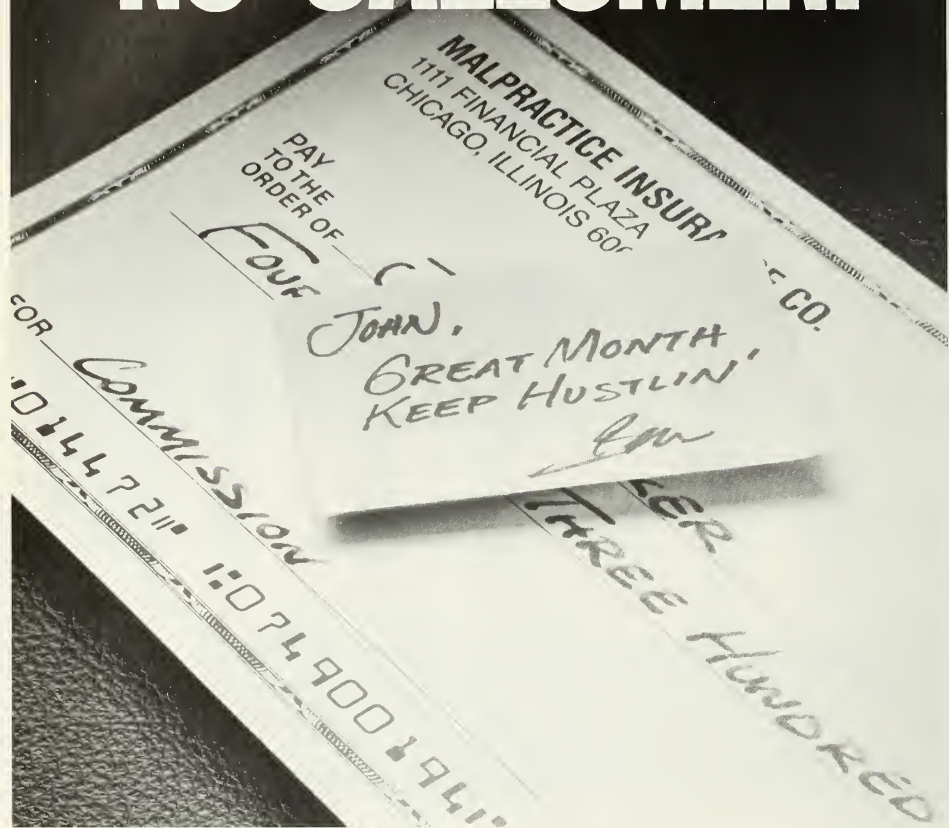
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### About the Cover

Eighty-one percent of Iowa's physicians belong to the Iowa Medical Society, but not all the physicians on this month's cover have joined. Thanks to KCCI-TV and WOI-TV, Des Moines, for their assistance.

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### About the Cover

"Reflections on Times Past," a photograph by Des Moines resident Carolyn Tenney, captures well the flavor of November in Iowa. Ms. Tenney, an employee of the *Des Moines Register*, took the picture in the front room of the doctor's office at Living History Farms. Ms. Tenney received 3 photography awards at this year's Iowa State Fair.

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### About the Cover

This seasonal photo of a typical foggy day in early December was shot by Des Moines resident Joe Reid. A retired Equitable Life employee and amateur photographer, Mr. Reid captured this misty tree on the west campus of Roosevelt High School, Des Moines.

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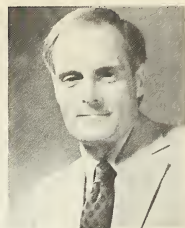
All the while, we have worked diligently to help our customers get the most out of their health care dollars, to provide excellence in service and to give our members cost-efficient, quality benefits. Like Total Health Network of Iowa and Family Health Plan, our innovative health maintenance organizations ... and ALLIANCE Select, our preferred provider program.

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**Blue Cross  
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of Iowa

Robert D. Whinery, M.D.



# On Decision Making

**D**IVIDED WE FALL! That's not a new idea, but I believe in *organized* medicine, or I wouldn't be in this job.

I think "decision making" (or the lack of it) is our nation's greatest problem. I also think that physicians can and do make daily decisions, often difficult ones. It's our training, our nature, our job.

I'm reminded of a conversation several years ago when the MCAT was being redone. A friend of mine who was employed by a major college testing firm, related the following experience. He said he had worked with educators for years but dealing with doctors on the new test was a first. The doctors involved would argue for hours over details, only to come to agreement and move on to the next item. He said the counterparts in other learning fields argued as long but never reached a consensus. He was amazed.

As a parent I've also noticed that teaching decision-making to my children was most difficult. It often seemed easier to do nothing than risk being wrong.

Well, I know medicine has problems — cost, access, rationing, ethics — to name only a few. Yet I'm sure that physicians of various ideations will argue, debate and bicker, and when the smoke clears, have a positive, unified direction. I see this happening at every AMA House of Delegates and it is healthy.

Problems, we've got them — rural-urban, town and gown, cognitive-surgical, government, liability, entrepreneurship and more. But voice your opinion, debate the issues and do it within medicine at your county, state and national societies.

Only physicians should make medical decisions — now more than ever! Add this to your New Year's resolutions.

*Robert D. Whinery, M.D.*

Robert D. Whinery, M.D.  
President

# Medical Volunteerism . . . You Get More Than You Give

ROBERT McCOOL, M.D.  
Clarion, Iowa

---

*There is no greater reward for a physician than helping the people who need it most, says this family physician who is making his fifth trip as a medical volunteer to an impoverished island in the south Caribbean. The photos accompanying this article also depict Dr. David Van Gorp, an Orange City family physician who volunteered his time in Romania; and Dr. Craig Schultz, a Dubuque family physician who has done 14 stints as a medical volunteer in Haiti. IOWA MEDICINE salutes the many Iowa physicians who have discovered the joys of medical volunteerism.*

---

**A**RE YOU TIRED OF THE DAILY GRIND, DRGs, traffic jams, meetings and deadlines? Do you want to make a difference in the world without the distractions of paperwork and third party payors?

Maybe it's time to consider a stint as a medical volunteer in a Third World country. Africa, Asia and the New World are replete with areas of great need. These countries would welcome a short or long-term commitment through which the native popula-

tion could benefit from American medical expertise.

Even periods of only one month are of great value. For these short stays, you are expected to pay the cost of your transportation (this is considered a charitable deduction on your income tax). Room and board are often available at a nominal cost.

Good physical health is a necessity. The personal health measures you follow are usually recommended by the permanent cadre of professionals in the clinic or hospital. These include protocols for malaria, hepatitis, parasites and AIDS.

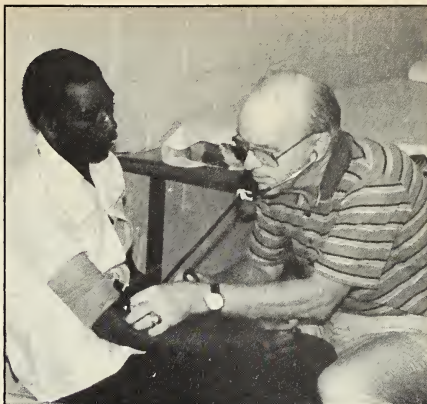
Some medical volunteer work is done in grim surroundings with harsh living conditions. Obviously, this manner of helping others is not for everyone. A well-balanced mental maturity will help you endure inconveniences. Remember . . . you can return home to your own comfortable environs while your patients must remain.

Initial contact can be made with various mission groups such as churches and volunteer agencies. Two well known groups are the Catholic Medical Mission Board and AmDoc. Required credentials include a current medical license, passport and letters of recommendation from colleagues. Malpractice insurance is usually not required.

Medical practice is exciting because it requires a great deal of "hands-on" activity. Sophisticated diagnostic equipment is often not available, so you practice medicine as you were taught. A good history (maybe through an interpreter), physical examina-

*(Continued page 10)*





*'You realize that somehow, you gained more from the experience than you gave in terms of your own sacrifice. This is the essence of medical volunteerism.'*

**Robert McCool, M.D., Clarion**

Clockwise from top left: This little girl grimaces as Kitty McCool, a medical technician, draws a blood sample. Mrs. McCool, wife of Clarion physician Robert McCool, M.D., has accompanied her husband on many trips to care for people on the island of St. Lucia in the Caribbean. Improper diet makes anemia a problem for the children of St. Lucia. . . . High blood pressure is "endemic" among the people of St. Lucia, says Dr. McCool, who is shown here taking the blood pressure of a patient at St. Jude's Hospital. The day-to-day struggle to survive is not conducive to good health, he adds. . . . Barber-shops are hard to find on St. Lucia's, so Dr. Robert McCool trusts the job to his wife Kitty. This picture was taken during a 3-month stint as medical volunteers in early 1990. . . . People wait patiently to be seen in the St. Jude's outpatient department. When you practice here as a medical volunteer, you "practice as you were taught," says Dr. Robert McCool.



tion, diagnosis and treatment under these conditions will dredge up skills you learned in school and postgraduate training. Compassion for the less fortunate will make up for the shortage of supplies we take for granted in our medical practices in America.

At the conclusion of your tour, you will realize that somehow you gained more from the experience than you gave in terms of personal sacrifice. This is the essence of medical volunteerism.

I am serving my fifth volunteer stint at St. Jude's Hospital on the independent island of St. Lucia, one of the Windward Islands of the south Caribbean. My wife works as a medical technician and I do general practice in the outpatient department. St. Lucia is half the size of my home county (Wright) but has 10 times the population. This very poor country is mountainous with a rain forest and the principal sources of income include farming and fishing.

St. Jude's is a 110-bed hospital overlooking the Caribbean and Atlantic Oceans. Each year at St. Jude's there are 1,200 surgeries, 1,000 deliveries and 20,000 outpatient visits. Aside from long-term volunteers who receive a nominal stipend, all the professional staff are volunteers for periods of 1-3 months. The volunteer staff includes physicians, nurses, radiology technicians and physiotherapists. Spouses and children often accompany the physicians. Native nurses and technicians are well-trained and pleasant people with which to share the great task of caring for the sick.

As a general practitioner, I have the opportunity to share in patient care with talented specialists from around the world. There is "state of the art" anesthesia and the radiology department has a 300 MA x-ray machine and an ultrasound. However, there is no CAT scanner to be found on the island. Last year, a cardiologist brought his

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*'There were so many needs, we didn't know where to start. It was the most personally rewarding thing I've done in years.'*

**David Van Gorp, M.D.,  
Orange City**

---



Left to right: Dr. David Van Gorp, M.D., an Orange City family physician, examines a Romanian youth. Dr. Van Gorp spent 2 weeks in Romania last August seeing patients and speaking at evangelistic meetings at night. He was invited to travel to Romania with a medical team assembled by a Chicago surgeon. He saw 40 patients a day in a "very primitive" makeshift clinic. The average Romanian worker makes less than \$30 a month and there is no soap, fluoridated water or hot water.

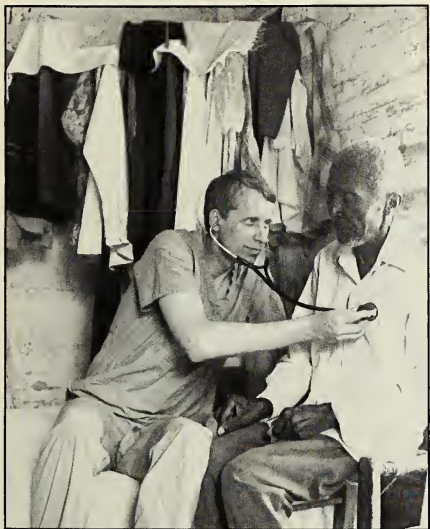
... While in Beius, Romania, Dr. Van Gorp also did some medical work in orphanages. There are 1,000 orphans in Beius — a town of only 12,000 people. Orphanages are rife with communicable diseases and a lack of hygiene and dental care. Some orphans have scars from whippings and beatings, says Dr. Van Gorp. Dr. Van Gorp is now recruiting colleagues from Orange City to make the trip to Romania.



own ECHO machine; EKGs and Swan-Ganz catheter capabilities are available.

During your stint as a volunteer, you will have the opportunity to enjoy some of the most beautiful mountains and pristine beaches in the world. My wife and I have formed lifelong friendships on St. Lucia.

If I can assist any physician interested in helping the unfortunate people in foreign countries, please contact me. You are never alone as a medical volunteer and the whole world applauds your efforts.



Clockwise from left: Dubuque family practice physician Craig Schultz, D.O., has made 14 trips as a medical volunteer to Haiti and plans to go again in February. Here, Dr. Schultz makes a house call on an elderly man with Parkinson's Disease. Dr. Schultz first became interested in medical volunteerism when he heard a speaker at a Baptist men's retreat in August of 1972. "I promised God if I ever had the opportunity to serve in this way, I would do it," says Dr. Schultz. He made his first trip to Haiti in 1973. . . . Dr. Schultz checks a little girl who has an ear infection. The child mortality rate in Haiti is incredibly high. . . . This house, which belongs to the elderly man with Parkinson's Disease, is a "typical house" in Haiti, says Dr. Schultz. Haiti is one of the poorest countries in the western hemisphere. The people are plagued with tuberculosis, malaria, typhoid, malnutrition and intestinal worms. Their life expectancy is only about 45 years.



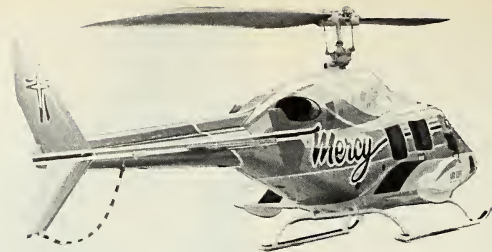
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*'Going to Haiti is an opportunity to use the talents that God has given us to ease the suffering of people without access to medical care.'*

**Craig Schultz, D.O., Dubuque**

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## Questions and Answers

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Governor Terry Branstad



# Health Care Access in the 1990s

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*In November, Terry Branstad was elected to a third term as governor of Iowa. In this special essay replacing the usual "Questions and Answers" feature, Governor Branstad discusses his plans for assuring that Iowans have access to quality, affordable health care in the coming decade.*

---

IOWA'S HEALTH CARE PLAN for the 1990s must address quality care and service, especially in our rural communities, and affordability through health insurance. Access to affordable, quality health care is important to every Iowan and helps keep a community vital and growing.

### *Healthy Lifestyles, Healthy Communities*

Learning about and practicing healthy lifestyles will result in healthy Iowa communities. Government can provide resources and expertise, but the action must occur at the local level. Some communities in Iowa have organized to initiate programs in substance abuse, child health, prenatal care and senior citizen health.

Clearly, health care is an integral part of a community's quality of life. We encourage people to join together within their communities to develop policies for a healthier lifestyle.

In state government, we propose to:

- increase efforts in schools to provide information on nutrition, tobacco, alcohol and drugs;
- encourage business and industry to offer wellness programs;
- support programs and policies to enhance healthy family life;
- continue to increase programs to protect our environment; and
- enact safety legislation to help prevent disability.

### *Access to Health Care*

Health care, especially in rural communities, is undergoing change and communities will be challenged to provide quality service in the future.

Our proposals include:

- community development programs that include health care as well as economic development. Our Office of Rural Health Care can help communities develop strategies.
- continuing to focus on a quality emergency medical service program;
- developing a program to encourage more medical professionals to practice in small communities.

Access to health care should be extended to Iowans who are uninsured or underinsured, especially children. We propose an innovative program to provide more than 90,000 Iowans with health care options:

*(Continued next page)*



- new regulations to hold down rates and expand coverage to more individuals by authorizing pooling by small businesses for basic benefit plans;

- establishing a commission to consider mandated benefits; and

- expanding Medicaid through the Caring Foundation for Children. We would like to combine public and private resources to expand participation to children in families whose income falls in the range below 185% of the federal poverty guidelines.

### ***Affordability and Quality of Health Care***

There are more steps we can take to make health care more affordable. In some Iowa communities, there are no doctors to deliver babies because of the high cost of medical malpractice insurance. We will continue to take aggressive action to put caps on non-economic damages to try to cut those rates.

We need to review both market and regulatory practices to make them work for greater access and affordability of health care.

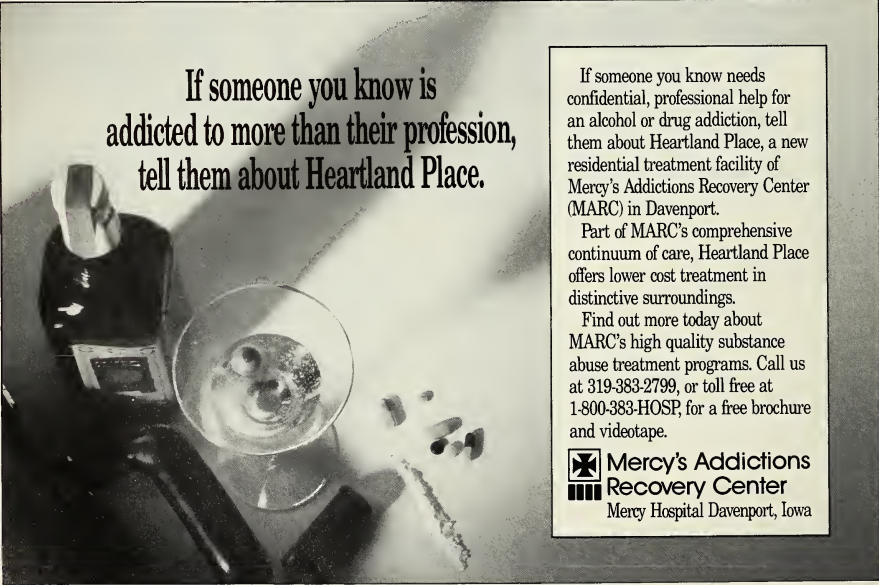
In addition, we need to develop a long term care plan so older Iowans can be reassured that they have options in case of illness. We must continue to support maternal and child health programs in Iowa. They are critical to the early prevention of illness.

Iowa's excellent institutions of medical sciences can help in research, professional training, health care planning and policy analysis. We plan to increase support for the institutions so they can provide even greater support to Iowa's future health care system.

### ***A Strong and Adaptable Health Care System***

All Iowans will benefit from a health care delivery system that meets the challenges of a changing world as well as providing for today's needs. We encourage private/public forums for health care planning that involve doctors and other health care providers, payors, consumers and civic leaders.

It is important to set goals together and determine the measurable outcomes we expect for our health system in the future.



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Mercy Hospital Davenport, Iowa



**A BIT OF HISTORY . . .** Also known as the medical department of the University of Northwest at Morningside, the Sioux City Medical College opened in 1890 and closed in 1909. Pictured above is the building at 7th and Pierce Streets occupied by the college. Pictures and information courtesy of the Sioux City Museum and Historical Association and Sioux City physician Vern Helt, M.D.

## *Historical Vignette*

### **Hard Times Hinder Plans**

**O**RIGINALLY KNOWN AS the Medical Department of the University of the Northwest at Morningside, the Sioux City Medical College was founded in 1890 by men who realized its possibilities. Rev. Wilmont Whitfield, D.D. was president and J.C. Gilchrist, A.M. was dean.

Rev. Whitfield worked hard for the University of the Northwest and enterprising men like E.C. Peters, A.S. Garretson, A.M. Jackson and I.N. Stone gave freely of their time and money so the young men and women of the northwest might receive a university education.

When the memorable hard times in the early nineties came, the cherished plans of the educators could not be carried through. Nevertheless, Drs. Jepson, Beggs, Talboy, Wheeler, Murphy and Hornibrook, members of the faculty of the medical department, de-

cided their department should continue.

After reorganizing in 1893 and adding to the faculty, they named the institution the Sioux City Medical College. They elected a board of trustees, with Dr. G.W. Beggs as president and manager of the institution.

In 1898 quarters which had been rented in different parts of the city became inadequate, and a building was erected at the corner of 14th and Jones Streets. Four years later this too was found insufficient to accommodate the students, and it was necessary to provide another. The 14th and Jones building later became the St. Johns Hospital.

The YMCA building at the corner of 7th and Pierce Streets, the most convenient and suitable location in the city, was selected. The post office, library, churches, boarding halls, etc., were within a 3-minute walk. Street cars passed the building every 5 minutes and took passengers to the hospitals and all other important places in the city.

In 1891, the Sioux City College of Medicine was admitted to the American Association of Medical Colleges.





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**The St. Paul**

# Menstrually-Related Toxic Shock Syndrome

CHARLES HELMS, M.D., Ph.D.

Iowa City, Iowa

LAVERNE WINTERMEYER, M.D.

Des Moines, Iowa

---

***Cases of suspect toxic shock syndrome reported to a state health department were studied. Retrospective examination of 53 definite and 29 probable cases of menstrually-related TSS revealed no significant differences in mean age, proportion with vaginal or cervical isolates of Staphylococcus aureus, proportion using tampons, proportion hospitalized and mortality.***

---

**T**HE DIAGNOSIS OF TOXIC SHOCK SYNDROME (TSS) is based upon a strict case definition developed by the Centers for Disease Control (CDC) shortly after the nationwide epidemic of TSS in menstruating women was recognized.<sup>1</sup> The original TSS case definition was deliberately restrictive to ensure uniformity and

Dr. Helms is with the Dept. of Internal Medicine, University of Iowa College of Medicine, Iowa City. Dr. Wintermeyer is state epidemiologist with the Iowa Dept. of Public Health, Des Moines.

accuracy in case reporting and comparability between epidemiologic studies.

Strict case definitions of illnesses are helpful in improving specificity of reporting, but may be inappropriate for clinical diagnosis and patient management. Cases of illnesses described as TSS or mild TSS have been reported which do not fulfill all criteria of the strict case definition.<sup>2,20</sup> Moreover, early descriptions of staphylococcal illnesses likened to TSS by Todd in his classic description also fail to meet the strict CDC case definition.<sup>21-25</sup> In some epidemiologic and clinical studies of TSS, cases meeting the strict CDC case definition (*definite* or *confirmed cases*) have been considered along with cases meeting a less restrictive CDC case definition (*probable cases*).<sup>20, 26-28</sup>

The demographic and clinical characteristics of definite and probable TSS case cohorts are not well described in the literature. We examined the degree of similarity between definite TSS cases and probable TSS cases found in this population of suspected cases. Based on our findings we suggest the epidemiologic distinction drawn between definite and probable TSS cases has little clinical relevance.

## ***Materials and Methods***

***Data-Base*** — Data were gathered retrospectively from copies of the prototype and final TSS Case Report forms developed by the Centers for Disease Control. The forms included information on patient characteristics,

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR JANUARY 1991

clinical and laboratory findings and catamenial product use.

One hundred twenty-five cases of suspected TSS were reported to the Iowa Department of Public Health between August 1980 and July 1986. Cases had onset from 1976 to 1986. The majority of cases (75) occurred and were reported in the 3 year period 1981 through 1983.

**Case Definition** — The definition of toxic shock syndrome employed was essentially identical to previous CDC definitions.<sup>1, 29</sup> The definition requires 6 criteria be met for an unequivocal diagnosis of TSS.

#### SIX CRITERIA FOR TSS DIAGNOSIS

1. Fever  $\geq 38.9^{\circ}\text{C}$  ( $102^{\circ}\text{F}$ )
2. Rash (usually a diffuse macular erythroderma)
3. Desquamation (usually of palms and soles and occurring 1 to 2 weeks after onset of illness)
4. Hypotension (systolic pressure  $\leq 90$  mm Hg for adults or  $< 5$ th percentile by age for children  $< 16$  years (30), or orthostatic syncope)
5. Involvement of 3 or more of the following organ systems:
  - a. gastrointestinal tract (vomiting or diarrhea at onset of illness)
  - b. muscular system (severe myalgia or creatine kinase level  $\geq 2 \times$  the upper limits of normal [ULN])
  - c. mucous membranes (vaginal, oropharyngeal or conjunctival hyperemia)
  - d. urinary tract (blood urea nitrogen or creatine level  $\geq 2 \times$  ULN or  $\geq 5$  leukocytes per high power field — in the absence of a urinary tract infection)
  - e. hepatic system (total bilirubin, AST (GOT) or ALT (GPT)  $\geq 2 \times$  ULN)
  - f. hematologic system (platelets  $\leq 100,000/\text{mm}^3$ )
  - g. central nervous system (disorientation or alternations in consciousness without focal neurologic signs when fever and hypotension are absent)
6. Negative test results on the following tests, if obtained:
  - a. blood, throat, or cerebrospinal fluid cultures
  - b. serologic tests for Rocky Mountain spotted fever, leptospirosis and measles.

Cases meeting all 6 of the above criteria were classified as *definite* cases of TSS. Cases meeting the sixth criterion and all but one of the first 5 criteria were referred to as *probable* TSS cases.

Patients who die before desquamation would be expected and patients with *Staphylococcus aureus* bacteremia who otherwise meet the case definition have more recently been considered confirmed cases by the Centers for Disease Control.<sup>31</sup> In this study, 2 fatal cases failing to fulfill the criterion of desquamation were classified as definite TSS cases. No cases of staphylococcal bacteremia were reported.

## Results

**Case Characteristics** — Fifty-three (42%) of the 125 suspect TSS cases were menstrually-related definite TSS cases; 29 (23%) were menstrually-related probable cases. Insufficient information was present on the TSS Case Report forms to exclude the definite case definition in 8 (28%) of the 29 probable cases. Of the 21 remaining probable cases with adequate data bases, 7 (33%) were deficient in respect to the hypotension criterion, 6 (29%) failed to meet the magnitude of fever required, 5 (24%) had less than 3 organ systems involved, 2 (10%) were without rash and one (5%) failed to desquamate.

**Features of Definite and Probable Cases** — Selected features of patients included under definite and probable case definitions are compared in Table 1. No significant differences between the case definition groups could be discerned in age, sex ratio, proportion hospitalized and fatality rate.

Isolation rates of *S. aureus* from cervix and/or vagina and tampon use were compared for the cases of menstrually-related illness included in the different case definitions. When cultures of vagina and/or cervix were reported, *S. aureus* was isolated in 46 (92%) of definite cases and 20 (77%) of probable cases. The isolation rates for definite and probable cases were not significantly different ( $p = 0.082$ , Fisher's Exact Test, 2 tailed).

The frequencies of tampon use by the definition groups were very high and did not differ substantially. Fifty-three (100%) of the definite cases and 27 (93%) of the probable cases reported using tampons during the index menstrual period. Twenty-two (42%) of the definite cases using tampons reported using Playtex brands during the index period. The frequency of Playtex brand use among definite cases was significantly greater than that among probable cases (7%) ( $p = 0.002$  Fisher's Exact Test). The frequency of use of Tampax brand tampons by menstrually-related probable cases (41%) was increased relative to definite cases (23%), but did not meet significant levels ( $p = 0.119$ ).

## Discussion

Since TSS was first described by Todd in 1978, well over 2800 cases have been reported to the Centers for Disease Control by state



TABLE 1  
FEATURES OF MENSTRUALLY-RELATED DEFINITE AND  
PROBABLE CASES OF TSS

Feature	TSS Case	
	Definite	Probable
Mean age, yrs. (Range)	23.1 (14-45)	23.9 (14-36)
Hospitalized	52 (98.1%)	27 (93.1%)
Fatalities	2 (3.8%)	0 (0.0%)
<i>S. aureus</i> in vagina or cervix	46/50 (92.0%)	20/26 (76.9%)
Tampon use in index period	53/53 (100%)	27/29 (93.1%)
Tampon brand most frequently used in index period		
Assure	1 (1.9%)	1 (3.7%)
Kotex	5 (9.5%)	5 (18.5%)
OB	1 (1.9%)	2 (7.4%)
Playtex	22 (41.5%)	2 (7.4%)
Pursettes	0 (0.0%)	1 (3.7%)
Rely	8 (15.0%)	2 (7.4%)
Tampax	12 (22.6%)	11 (40.7%)
Other	1 (1.9%)	1 (3.7%)
Unknown	3 (5.7%)	2 (7.4%)

health departments throughout the country.<sup>25, 32</sup> Most cases have occurred in young menstruating women using tampons. The demographic characteristics of the cases of illness thought to be TSS and reported to the Iowa State Department of Health clearly reflected the national experience.

For inclusion in national incidence statistics, cases of TSS reported to the Centers for Disease Control must fit a strict case definition and must be definite or confirmed cases. The potential for a strict definition of TSS to include severe cases and exclude milder cases has been recognized.<sup>29</sup>

With the initial strict TSS case definition it is likely that cases at both ends of the spectrum of severity of illness were excluded.<sup>1, 29</sup> In the instance of severe TSS, patients who die within a week of the onset of illness may not desquamate.<sup>14, 15</sup> In addition, shock with peripheral vasoconstriction occurring in severe cases may obscure the rash of TSS.<sup>14</sup> Thus patients dying of TSS may fail to manifest as many as 2 of the 6 criteria of the case definition. Appropriate modification of the case definition to accommodate fatal cases without desquamation has been made.<sup>31</sup>

Reports of initial episodes or recurrences of menstrually-related TSS of milder nature

coupled with reports of TSS-like syndromes associated with *S. aureus* infection in non-menstrual settings have lent strong support to earlier studies suggesting a spectrum of severity and clinical manifestations of TSS.<sup>2-13, 14, 16-20</sup> Many of the reported cases of mild TSS fall into the category of probable TSS cases in that they lack a single criterion of the definite case definition.<sup>26</sup>

In the present study, 29 (23%) of 125 cases of suspected TSS reported to the Iowa State Department of Health fit the menstrually-related probable TSS category. Twenty-eight percent of these cases were placed in that category because there was insufficient information on case report forms to evaluate all criteria. Thus over one-quarter of our probable cases could be definite TSS cases. The "true" probable cases may contain milder forms of TSS as the number of organ systems involved is fewer, hypotension is often absent and the magnitude of fever reported is less.

We were unable to detect significant differences between definite and probable menstrually-related TSS cases in terms of age, morbidity, mortality, proportion of tampon-related cases and proportion of cases with *S. aureus* identified in cervical/vaginal cultures. Based in part on these epidemiologic similarities, we believe it is reasonable to combine menstrually-related definite and probable TSS cases for purposes of clinical diagnosis. A substantial and growing body of clinical literature indicating a spectrum of severity and clinical manifestations of TSS supports this suggestion.<sup>2-20</sup> Moreover, precedent already exists for combination in that one group of "probable" TSS cases (fatal cases which do not desquamate) are already considered confirmed cases.<sup>31</sup>

The increased relative frequency of Playtex brand tampon use during the index period by definite TSS cases relative to probable cases is intriguing. In recent studies of the relationship of tampons to the risk of TSS, increasing tampon absorbency was found to be directly related to increasing risk for toxic-shock syndrome.<sup>33, 34</sup> The case definitions for TSS in these studies were essentially identical to that used for definite cases in the present study. Playtex brand tampons were of relatively high-absorbency; therefore, their representation in the definite TSS category is not unexpected.

(Continued next page)

Why this brand is underrepresented in the probable and uncertain TSS case categories is unclear. Several possible explanations for this finding exist. First, the numbers of cases in our present study are few and the difference may be simply a statistical fluke. Second, Playtex tampons may have predisposed to more severe TSS and a greater likelihood of fulfilling the strict TSS case definition than the other brands. Third, an unidentified risk factor unrelated to tampons may be linked to the use of the Playtex brand. Fourth, an unidentified risk factor unrelated to the Playtex brand may coincidentally be more prevalent in the definite TSS group. Fifth, media attention to tampon absorbency in 1981 and the polyacrylate-containing tampons in 1985 may have focused the attention of women with TSS and health care workers on the Playtex brand relative to others leading to overreporting. The paucity of cases and the limited data base in our retrospective study do not permit us to make conclusions. The last seems unlikely, however, in that the great majority of Playtex brand associated cases (22 of 28 among the 125 suspected TSS cases) were reported before the media focused on polyacrylate-containing tampons.

Physicians considering a diagnosis of TSS should follow the strict CDC case definition. The diagnosis should not be excluded in menstrually-related cases, however, if all criteria are not met. Particularly in cases in which *S. aureus* is isolated, the absence of a single diagnostic criterion should lead the physician to consider the patient may have a milder form of the disease. Certainly therapy and counseling regarding menstrual recurrences should not be withheld based on the failure to meet all criteria for TSS.

A full and unequivocal picture of the incidence and clinical spectrum of TSS will require the development of sensitive, specific and inexpensive diagnostic laboratory tests for the TSS toxin or toxins.<sup>35-40</sup> Such tests are not yet readily available to all health care workers. Thus the epidemiological case definition of TSS continues to be the most important tool in the diagnosis as well as the study of the incidence and clinical manifestations of TSS.

## References

References noted in this article are available either from the authors or the editors of *IOWA MEDICINE*.

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## YOHIMBINE HCl

**Description:** Yohimbine is a 3a-15a-20b-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubiaceae and related trees. Also in *Rauwolfia Serpentina* (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

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**Indications:** Yocoon® is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

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**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral alpha-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.<sup>1,2</sup> Also dizziness, headache, skin flushing reported when used orally.<sup>1,3</sup>

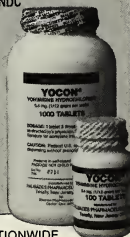
**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.<sup>1,3,4</sup> 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.<sup>3</sup>

**How Supplied:** Oral tablets of Yocoon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

### References:

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
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Marion E. Alberts, M.D.



# Let's Try a New Approach

OUR CHILDRENS' FUTURE GOOD HEALTH is being threatened by cigarettes and alcohol, according to 2 important studies reported in the November 1990 issue of the *American Journal of Diseases of Children*. These reports should be of interest to all physicians who provide medical care to children.

The first report originates from the University of Iowa Hospitals and Clinics and concerns cigarette smoking by adolescents. The research project centered around students attending 2 junior high schools and one senior high school in Muscatine; 443 students 13-17 years of age. The author's primary purpose in this study was "to identify factors that exert the greatest influence on future smoking behavior and to ascertain whether the influence of these factors changes over time."

Students who regularly smoke cigarettes tend to be less successful in school and do not participate in school-related activities. Previous studies have shown that adolescents who smoke tend to separate their lives from traditional social activities such as school and family . . . less supervised activities.

Factors associated with adolescent smoking begin to exert their influences at the age of 12 to 13 years. Consequently parents, teachers and physicians must recognize the importance of promoting nonsmoking at an early age. Emphasis must be placed on positive peer influences in nonsmoking activities. Emphasis on characteristics of smokers (clothes smelling of cigarette smoke, stained teeth and bad breath) seem to have more influence than fear of lung cancer. Parents and teachers must coordinate their ef-

forts by better interaction with the adolescents. Physicians can lend immeasurable assistance by interaction with patients, as well as in their role as parents.

The second article pertains to infants afflicted with fetal alcohol syndrome and the risks of children in alcoholic families. A study from Boston City Hospital concerns the fact that alcohol-related problems are too frequently ignored by physicians dealing with children. The report is based on a study of how often pediatricians and family practitioners inquire about alcohol use in family histories.

Fewer than half the pediatricians surveyed ask about problems with alcohol when taking a family history. Interestingly, pediatricians who had a personal family history of alcohol problems were more likely to ask patients about alcohol. More family practitioners than pediatricians ask about alcohol problems. Unfortunately most physicians rely on patients to volunteer information on family problems with alcohol.

The family history, in addition to the patients relating personal health problems, is a *sine qua non* in establishing a full picture of a patient's status. Efforts must be made to develop awareness by physicians (those well established in practice experiences as well as students) of substance abuse among parents and adolescents. An integrated approach to behavior and family issues is incumbent upon all physicians. Furthermore, better communication regarding such matters between obstetricians and pediatricians would have much value in earlier diagnosis of neonatal problems such as caused by maternal substance abuse — M.E.A.

Richard M. Caplan, M.D.



## Thanks For Not Smoking

**H**E WALKED TO THE LARGE free-standing ashtray near my seat. Watching him flick cigarette ash into the container, I scowled at my bad choice in sitting near that ashtray and looked around for another seat. Fortunately, that part of the St. Louis airport was fairly empty. I noticed a nearby area where signs said "Thanks For Not Smoking In This Section." Just then a young man holding a lit cigarette plopped himself into the chair immediately in front of the sign I was reading. As I pondered whether to move to that section, and perhaps draw the young man's attention to the sign just behind his head, the man near me reached down to tamp out his short cigarette butt. I decided to stay put and returned to my journal.

Shortly I looked up to find the same man, slim, early 40's, still standing nearby and smoking a freshly-lit cigarette. Now *that's* chain smoking, I thought, and looked back to the no-smoking section. The seated young man had left. I noticed the smoker near me inhale deeply and blow diluted smoke from his nostrils and mouth. Almost at once he took another puff. I felt intrigued at his behavior and started to time the intervals between puffs, which occurred at the startling pace of about every 9 seconds. I wondered if he was trying to store a hefty dose of whatever he gets from the smoke as a prelude to boarding a plane. When his cigarette was an inch long, he pressed it out in the ashtray and walked directly to a nearby

gate to board a flight shortly to depart for Baltimore. I congratulated myself on my supposition and again returned to my journal.

My chain of thought recalled a recent discussion among a group of physician colleagues where one of them said, "There's no point in telling patients to stop smoking — it never does any good." I surmised that such an attitude probably made the comment true for *that* doctor's patients, but I thought I'd somewhere encountered evidence to the contrary. Since I couldn't then remember the details, I elected, for a change, to be quiet.

Within a few more minutes my reading brought me to an article by Secretary Louis Sullivan ("Healthy People 2000," *NEJM*, Oct. 11, 1990) in which he spoke of disease prevention and made this statement:

... by simply giving patients written material on smoking cessation and advising them to kick the habit, physicians have achieved a decrease in smoking of 5 to 15% in the general population and up to 27% in pregnant women. If every physician routinely counseled his or her patients about the dangers of tobacco use and encouraged them to quit smoking, at least 1 million Americans would stop smoking in one year. And the benefits are immediate: smoking cessation reduces the risk of death from coronary heart disease in as little as two years.

The continuing education implication of this conjunction of experiences seemed clear. Physicians need to be aware that their recommendations and offers to help patients can make a difference, even if the "efficiency" of such conversation is low. When the stakes are high, even a 10% success rate is surely worth the trouble.

Dr. Caplan is Associate Dean for Continuing Medical Education at the University of Iowa College of Medicine.

## Is Assisted Suicide Justifiable?

**S**UPPOSE A PATIENT with a history of depression requests your help in ending his life, specifically by asking for a renewable prescription for a large number of sleeping pills.

Or suppose one of your patients, with advanced cancer and suffering from severe pain that is refractory to treatment, tells you her life is intolerable and asks for your advice concerning the best and safest way to kill herself.

Or suppose one of your patients, having cared for a husband with severe dementia for years prior to his death, asks your help in securing a quantity of the lethal drugs so she will be able to avoid, should the need arise, the same fate that befell her husband. Furthermore, she asks you to keep this information confidential because she fears her adult children would try to thwart her plans.

As we discussed in the November column, assisted suicide requires a physician or someone else to carry out the role of "enabler" by helping a patient or friend commit an act of self-destruction. The enabler neither intends to kill nor actually kills the person who prefers death to an existence that has become intolerable (thus we are not addressing the issue of voluntary euthanasia). Rather, the enabler assists an individual to commit suicide who cannot, for several possible reasons, carry out the act without help.

The legal status of assisted suicide in Iowa is not as clear as it is in some states. Although suicide was decriminalized in the mid-1970s, many states still have specific criminal prohibitions against assisted suicide. The punishment is usually a fine (\$1,000-\$2,000) plus the possibility of a year in prison. In Iowa and other states lacking such statutes, assisted suicide might or might not be interpreted as a

crime under the common law or homicide statutes.

Given the uncertainty of the law and the likelihood that a physician-assisted suicide will not be reported (much less prosecuted), the ethical question remains: Is physician-assisted suicide ever justifiable? My answer is affirmative, given several conditions.

Unlike the Jack Kevorkian case in Michigan last June, any physician seriously considering helping a patient commit suicide should know the patient's medical history, current medical condition, value system, decision-making capacity and prognosis. For Kevorkian to meet Janet Adkins once for dinner and neither confirm her diagnosis (early Alzheimer's dementia) nor recommend further medical consultation before hooking her up to a "suicide machine" is deplorable.

A morally responsible physician who is asked to assist in a suicide should determine if the patient is suffering from clinical depression and, if so, recommend treatment for that condition. In addition, the physician should try to determine if the patient's pain and suffering are, in fact, refractory to treatment.

A physician should discuss suicide with the patient, to determine if the decision to die is rational, the request for help is necessary, alternatives to assisted suicide have been explored and relatives and friends who would be psychologically harmed by an unexpected suicide are aware of what may happen.

A compassionate act of assisted suicide should be a moral last resort when no medical treatment is available that will reverse or cure the patient's condition, no life-sustaining treatment is being used that could be abated at the patient's request and no intervention seems to provide the relief and release the patient desperately seeks.

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This column is written by Robert Weir, Ph.D., director of biomedical ethics for the University of Iowa College of Medicine.



# Managing Employee Health Care Benefits

**C**ONTROLLING HEALTH CARE COSTS is a major component in today's profit plans. As a physician, you're well aware of the causes of rising costs; as an employer, you may not know how to attack the problem.

We advise our small business clients to approach escalating costs of health care by taking a look at the primary users of a health care plan and how the plan is being paid for.

### *Who's Using Your Health Care Plan?*

The first step is to determine who actually uses the coverage . . . not who is covered. What are the ages of the dependents covered on your employees' plan? Are your employees using your health insurance plan for primary coverage? What proportion of your organization's health care costs are routine services versus catastrophic claims?

The age and sex of the population using the benefits will help employers find specific ways to cut costs. Cost control for an older population might be achieved through various wellness programs.

If your health care plan is used primarily by young employees with small children, your usage rate and claims may be associated with routine office calls and prescription costs. Using a typical indemnity insurance plan, you might be paying as much as \$15 to process a prescription claim of less than \$10. Some organizations control escalating prescription costs by using a direct pay method.

The "look back" approach helps you identify where changes might be made. It has been estimated that approximately 2% of employees are responsible for 40% of an organization's annual health care cost. Developing programs for that 2% could mean substantial savings.

### *Do Your Employees Share the Cost?*

Many organizations are increasing employee health insurance premium contributions and requiring co-payments. This practice is more prevalent among large employers (over 100 employees). A 1990 health care survey found 24% of larger organizations versus 17% of smaller employers had increased employee co-payments.

While this approach might be viewed as simply cost shifting, it helps manage the overall dollars spent on health care. Employees in households with 2 wage earners may choose only one insurance plan — the one offering maximum benefits for the least cost.

If an organization uses a flexible benefit plan with a premium-only conversion option, employees may pay health insurance premiums with pre-tax dollars. This means a tax savings for employees and for the employer, through reduced FICA taxes.

A concerted effort can produce impressive savings. In a recent survey of 634 employers with cost management features in place, 85% reported cost savings and 19% of the employers estimated their savings at 10% or more.

Managing health care plans, claims and costs is no longer an annual occurrence; it is a regular ongoing management responsibility.

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Gary Skarr is a senior human resources consultant with the Cedar Rapids office of McGladrey & Pullen.

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## About Iowa Physicians

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Dr. John Tyrell, Manchester, was recently awarded the Iowa Volunteer Hall of Fame Award by Governor Terry Branstad. This award is presented to individuals who make unique contributions to their communities through volunteer services. Dr. Mary Jane Pennington has joined Drs. James Reinertson, Mark Reinertson and Gary Gray at the Cedar Rapids Pediatric Clinic. Dr. Pennington received the M.D. degree at the University of Washington School of Medicine, Seattle, Washington and served a residency at the University of Utah Medical Center, Salt Lake City, Utah. Dr. Maureen Connolly has joined the Towncrest Internal Medicine staff in Iowa City. Dr. Connolly received the M.D. degree from

Georgetown University School of Medicine, Washington, D.C. and served an internal medicine residency at St. Vincent's Hospital in New York City. Most recently Dr. Connolly was on the staff of El Rio Health Center in Tucson, Arizona. Dr. Edward Sandy, II has begun practice in Mt. Pleasant. Dr. Sandy received the M.D. degree from Eastern Virginia Medical School, Norfolk, Virginia and completed his residency in the Department of Obstetrics and Gynecology at Ohio State University College of Medicine, Columbus, Ohio. Dr. Sandy previously practiced with Guernsey County Medical Center in Cambridge, Ohio. Dr. John Carroll was recently named a fellow of the American Academy of Family Physicians.



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## The Tougher the Job, The More Rewarding It Can Be

**"T**HE ANESTHESIA EQUIPMENT MAY BE in total disarray. Endotracheal tubes may be locked in a cabinet for which no one has a key. There may be an inadequate supply of oxygen or there may be no oxygen at all. There may be no monitors of any kind. You will have to learn to get along with a blood pressure cuff, a precordial stethoscope and a finger on the carotid pulse. You may finally do what your first preceptor told you to do — you may have to touch and observe your patient."

These words from Harry Lutz, M.D., an anesthesiologist who has volunteered his services outside America through Health Volunteers Overseas, are a telling description of what it's like to practice medicine in a developing country. This month's issue of *IOWA MEDICINE* features 3 Iowa doctors who are medical volunteers. Each year, thousands of health professionals from across America become medical volunteers in foreign countries.

The American Medical Association is one of several organizations which recruit health care professionals to serve stints as "medical missionaries." Many physicians return several times.

Over half the world's population does not have adequate health care. In many countries, a majority of people don't have access to sanitation and safe water. These countries don't have enough doctors because people leave for training in the U.S. or Europe and don't return.

David Van Gorp, M.D., an Orange City family physician whose recent trip to Romania is described in this month's cover story, said, "There were so many needs, we didn't know where to start." Dr. Van Gorp saw 40 patients a day in a makeshift clinic in Beius, Romania.

Considering the primitive conditions and communication problems, Dr. Van Gorp estimates this to be roughly equivalent to seeing 80 patients a day in the U.S.

Sponsored by the AMA, Health Volunteers Overseas (HVO) last year placed 170 physicians, dentists, physical therapists and nurses in 16 training programs. HVO is a non-profit organization which focuses on improving health care in developing countries through training and is just one of many organizations attempting to fill the crying need for adequate health care in developing countries.

Physicians who serve as medical volunteers must be flexible and innovative. A physician volunteering services abroad will be challenged daily to seek new solutions for problems created by lack of materials and equipment.

According to Robert McCool, M.D., the Clarion physician who wrote this month's story on medical missionary work, health volunteerism is a "chance to practice the way you were taught. Practicing under these conditions will dredge up skills you learned in school."

However, the many physicians and other health care workers who make these trips see the health care problems in foreign countries as a challenge rather than as an overwhelming obstacle.

Perhaps this is the reason all 3 of these Iowa medical missionaries — and probably many more — say medical volunteerism is the most rewarding thing they have ever done.

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January 1991

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Iowa Medicine

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## President's Privilege

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Robert D. Whinery, M.D.



## The Blahs

**D**O YOU HAVE THE BLAHS? In Iowa, it's that time of year. Cold weather, dark and dreary days — that will do it. Scientists tell us we need sunshine for positive mental health.

It's possible that Iowa physicians have the medical blahs. The "weather" has been stormy for quite a while and certainly we are short on "sunshine." It would be easy to be discouraged. The long hours and tough decisions don't fit well with the decreasing pay and increasing hassle. But for the sake of our patients, our families and ourselves, we can't give up.

I'm fortunate in being able to see medical issues and proposed solutions as they are being developed. I see how bad things could be were it not for a lot of dedicated people at the IMS and AMA. The results of these efforts are not always what we want but "light years" better than what might have been. Lots of effort = small victories.

For those of you not so privileged or involved, the practice changes can be pretty disheartening. The February blahs and then some.

But, take heart. The sunshine and flowers will come again and the best medical system in the world will survive. It will be changed, but I believe still exciting, rewarding and appropriate.

This *IOWA MEDICINE* concerns itself with continuing medical education. CME is vital to every doctor's continuing good care. I am noticing that more and more of our medical publications contain political and socioeconomic issues. I must admit I find myself reading these articles first with increasing frequency. That's probably not all bad. As well as we understand the science of medicine, we need to understand the social milieu in which we work. So broaden your continuing education and better appreciate and understand medicine's present and future.

*Robert D. Whinery, M.D.*

Robert D. Whinery, M.D.  
President



# The Evolution of Individualized CME

RICHARD CAPLAN, M.D.  
Iowa City, Iowa

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*There is more concern than ever about the small percentage of physicians who demonstrate educational deficits that could be corrected.*

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THE IOWA MEDICAL SOCIETY'S COMMITTEE ON Education has followed recent attempts to identify physicians whose practice behavior demonstrates educational deficits that are potentially correctable. The committee feels that IMS members would welcome a review of the present thinking and activities.

"Quality control," surely not new to the world of manufacturing, is not new to the world of medicine either, e.g., standards for laboratory and imaging devices. Neither is it new when applied to the professional work of individual physicians — review by licensure authorities, third-party payers, judges and juries in malpractice actions, hospital credentialing processes and tissue and infection committees are old stuff. So what's new? There are at least 2 recent developments. First are technical means of reviewing physicians' performance with greater de-

tail and accuracy than ever before. Second is a new willingness outside and inside medicine to insist that those whose practice behavior fails to meet peer review standards must either change or discontinue the aspect of work that appears inadequate.

Important, difficult questions arise immediately. By what process will standards be set? What sort of monitoring/inspection will be effective, reasonable, feasible? Who will ultimately make the necessary decisions about adequate/safe performance? What safeguards of appeal will exist? In case of an adverse decision, what penalties will be imposed or remedies attempted?

In the context of educating medical students or residents, the academic world depends on the opportunity for direct interaction and supervision to identify and, usually, correct problems. After a practitioner has functioned independently, however, that physician is largely unsupervised, especially in outpatient work, and usually becomes substantially and usefully self-assured (including complacent in one's errors). Some grow increasingly out of touch with new developments. More group practice, greater pressure related to hospital credentialing, limited duration of specialty certification, greater activism on the part of the public and licensing bodies and continuing or increasing regulatory behavior by third-party payers will all increase supervision and review, whether by peers or others.

Through computerized monitoring plus altered attitudes and institutional environments, an increasing number of physicians are likely to be found wanting in some as-

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Dr. Caplan is associate dean for continuing medical education for the University of Iowa College of Medicine.



pect of clinical skills and behavior deemed necessary to good patient care. Some such deficits, once substantiated, may be found due to illness or substance abuse, while others may be deficits of knowledge or skill that might be improved through carefully focused effort. Education may then be prescribed. A person sentenced to education, however, is unlikely to have the positive attitude meaningful learning requires.

Providing appropriate educational help under such circumstances is not easy. Even deciding an appropriate name provokes controversy. Suggested adjectives have included *prescribed, focused, corrective, remedial, personalized and enhanced*, but most favored at this moment is *individualized* CME. Those concerned with this problem have looked toward medical schools in the hope that an answer may be available there. But the problems are formidable. The costs to administer, assess, instruct, and evaluate are large when performed thoroughly and conscientiously. Furthermore, a responsible educational institution is reluctant to certify to an individual's competence or offer assurances that the learner's future behavior will remain satisfactory. It can only attest that appropriate educational objectives were completed satisfactorily. For example, attendance could be documented, or performance on written or oral tests might be judged satisfactory.

Medical schools may find it difficult, illegal or otherwise impossible to provide clinical training that includes actual supervision of a referred learner who has been charged with responsibility for patient care. In an academic setting competition for learning opportunities (medical students, residents and fellows) and ethical problems of disclosure-to-patient are particularly troubling obstacles. Practitioners in community settings may be as effective as academic physicians for providing clinical learning and supervision, but the needed trust and cooperation will not come easily.

Several factors suggest individualized instruction should be concentrated in a few centers over the nation. The number of physicians in need will be relatively small, while the costs will be high considering the highly individualized effort required. Dr. Thomas Meyer, director of CME at the University of Wisconsin, has been a national leader in this

effort. That medical school has an unusual, well-validated library of independent study material. For many years they have offered medical students an alternative curriculum that uses such materials for the preclinical subject areas. Examples of instruction include: pharmacological principles and update, the microbiology of antibiotic resistance and the molecular genetics that produce such clinically important events, the patho-physiology of cardiac arrhythmias and their management with and without myocardial infarction, and so on. In a presentation delivered in April, 1990, Dr. Meyer said:

It is possible to develop a program by which unique educational interventions are developed for physicians whose practice patterns in identifiable areas have been found inadequate. Whether a carefully designed, rigorous education program lasting several months changes practice patterns has yet to be determined.

The University of Wisconsin program has dealt with the referral of 36 Wisconsin physicians during the past 2 years. Their program may soon accept out-of-state referrals. At this time they do not have follow-up data on the "graduates" of such a program to show the extent of success. Many national organizations are concerned with this issue, and a few institutions are attempting to develop pilot programs.

Optimally, CME should be voluntary, prompted by physicians' self-assessment of their actual performance plus the desire to improve. Reality will always fall a little short of that ideal, and the need will persist in some cases for a more carefully tailored, evaluated CME effort imposed from outside.

The various review and licensing bodies, third-party payers, the educational establishment and organized medicine seem to acknowledge that a small fraction of practitioners have educational needs that warrant addressing, and that such effort should be as constructive as possible, rather than punitive. Debate is now active and a few prototypes are appearing. The procedures and timetable for further action remain uncertain, but the developments are being closely monitored by the Education Committee and staff of the Iowa Medical Society.

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## Questions and Answers

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David Thomas, M.D.



# A New Approach to Knowledge Gaps

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*Personalized CME can be a very effective tool for correcting medical knowledge gaps, says this Marshalltown family physician who is chairman of the Iowa Foundation for Medical Care Comprehensive Review Committee.*

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### How do you define personalized CME?

Personalized continuing medical education (CME) is an educational endeavor designed to fulfill the needs of specific physicians. It may be self-initiated to increase knowledge in a new area, correct inadequate knowledge, fill a community need or better care for patients with an uncommon problem.

Some personalized CME is prescribed by third parties (hospital staff, malpractice insurer or the PRO) to improve the quality of patient care in lieu of sanction activity or loss of privileges or coverage.

### Do educational deficiencies make a physician "impaired" or "incompetent"?

Neither term is appropriate. The physician who has global deficiencies may be currently incompetent. The physician who will not or cannot learn may be impaired. These terms have such negative connotations that I prefer not to use them. I prefer "a physician with a knowledge gap, inadequate fund of knowledge or noncurrent treatment patterns." Perhaps these terms fail the needs of third parties but they better serve the physician in need of personalized CME.

### If the IFMC identifies physicians who need personalized CME, what steps are taken?

By contract with the Health Care Financing Administration, the IFMC must recommend education to physicians with "quality points." Any physician who receives 10 or more quality points per quarter must receive education. This "education" can often take place through a brief discussion (in person or by phone) or in a letter from the IFMC. Twenty points require other interventions plus education and intensified review. This often is a recommendation for reading or course work. Those receiving 25 or more points must be considered for sanction activity or referral to licensing bodies. A single case almost never results in either of these, but rather recommended education/reading, standard course work such as ACLS certification or courses in other areas. After the education is completed, new cases are reviewed to see if the problem has been corrected.

### What educational means have you used?

The Comprehensive Review Committee (CRC) has implemented several educational efforts for individual physicians. Most are standard courses for CME credit available to any physician. One physician has chosen to attend the Nebraska 2-week family practice update. More unusual efforts have included writing a paper or preparing an annotated bibliography on a specific topic.

### Can any physician get CME credit for these individual efforts?

*(Continued next page)*



These special projects may be eligible for CME credit, but the IFMC is not an approved CME provider and, by law, cannot release confidential information about a physician. Therefore, the only way for a physician to receive credit for an individual project is to explain the project to a CME provider and arrange for credit (probably Category II).

#### Have these efforts been successful?

Some have produced an obvious improvement in patient care, but behavioral changes are difficult to measure. When the IFMC doesn't find further inappropriate care, does that mean it doesn't exist? Has the patient been referred to another physician? Is the local peer review process counseling the physician so he or she does it right?

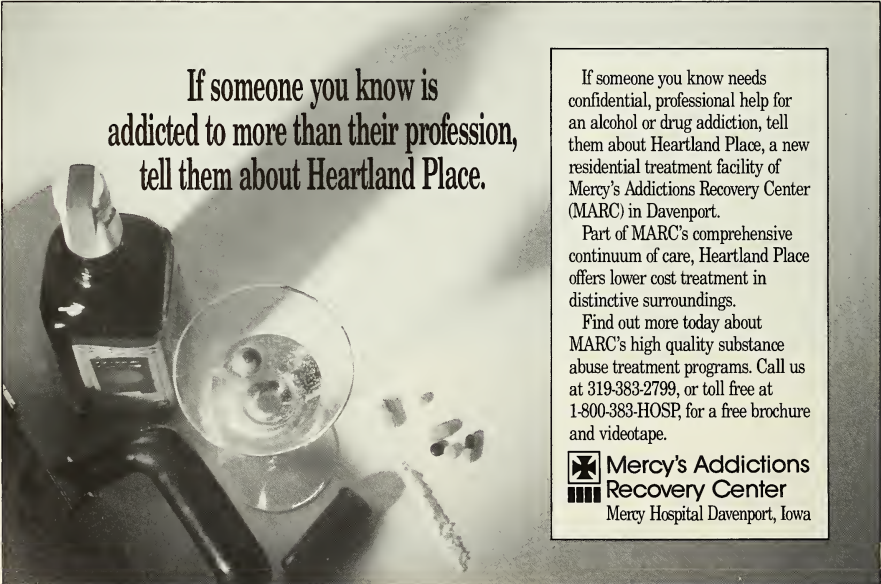
The bottom line is quality care—how it happens is less important. A few physicians have thanked the IFMC for encouraging them to correct deficiencies. Since I sign many of the letters and know who gets them, I can follow their letter volume and know that problems have been corrected. I think that speaks well for the educational efforts.

#### How do physicians respond to your committee's educational recommendations?

Most physicians would like the IFMC, the CRC, peer review and me to go away. Not surprisingly, some have had unique suggestions on what I might do! Unfortunately, physicians feel threatened by the process. However, once physicians meet with the CRC, they usually recognize the areas that need improvement and often suggest their own educational program. Two have volunteered to become board certified in their specialties. Preparing to sit for boards should help correct the problems.

Unfortunately, one physician refused to take a course (ACLS) even though he continued to care for acute myocardial infarction patients. Rather than follow what he called our "silly recommendation," he retired.

A small number of physicians have not been able to apply the formal education to clinical practice and continue to make the same mistakes. Further efforts, sanction recommendations to the government and/or referral to the Board of Medical Examiners is then necessary.



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# Postoperative Toxic Shock Syndrome

DONALD HUGHES, M.D.

JACK STAPLETON, M.D.

Iowa City, Iowa

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*The authors present an interesting case of nonmenstrual toxic shock syndrome.*

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**T**OXIC SHOCK SYNDROME (TSS) IS POTENTIALLY lethal if not diagnosed and treated early in its course. Attention has focused on the association of TSS with menstruating women and tampon usage; however, TSS can result from staphylococcal infections at a variety of sites in any patient. Nonmenstrual related cases are associated with local *Staphylococcus aureus* infections including abscesses, osteomyelitis and post surgical cutaneous and subcutaneous infections.<sup>1</sup> A striking feature of postoperative TSS is that signs of local wound infection are rarely present.<sup>1-3</sup> It is important therefore, that physicians are aware of the occult nature of wound infections in patients presenting with fever, rash, hypotension and the other sys-

temic symptoms of TSS following surgical procedures. We recently cared for a patient who illustrates typical clinical findings of postoperative TSS.

## Case Report

A 20-year-old white female with chronic renal failure due to medullary cystic kidney disease was admitted to University of Iowa Hospitals and Clinics to receive her 4th cadaveric renal transplant. She had been maintained on hemodialysis for 7 years using a left femoral bovine arteriovenous shunt. Four days after transplantation the patient developed decreased renal function, and renal biopsy demonstrated acute tubular necrosis. Eight days later the transplanted kidney was removed and pathology revealed rejection with infarction.

Two days after the transplant nephrectomy the patient developed fever to 39.6°C. The patient was immunosuppressed with solumedrol, cyclosporin, cytoxan, anti-lymphocyte globulin and OKT3 antibody until 5 days following nephrectomy. Multiple cultures were obtained (urine, blood and wound), and all were without growth. Four days after her nephrectomy an ultrasound of the incision site showed a small fluid collection. Three days later 2 fluid collections were demonstrated at the nephrectomy site by computerized tomography. The larger one measured 1.5 × 1.5 × 3 cm. The larger fluid collection was drained by ultrasound guidance and 3.5 mls of bloody

Dr. Hughes is a family practice resident at the U. of I. College of Medicine. Dr. Stapleton is an internist at the U. of I. College of Medicine and a Research Associate of the Veterans Administration.

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR FEBRUARY 1991

fluid were obtained. A gram stain showed many polymorphonuclear leukocytes but no organisms were seen and culture of this fluid was negative.

Eight days after aspiration of the fluid collection, the patient developed edema of the face and hands and a facial rash. Suspecting a drug reaction, all medications were discontinued. Over the next 2 days the patient complained of malaise and myalgia, nausea, vomiting, watery diarrhea and dizziness on standing. A diffuse erythematous, macular rash developed and only spared her palms, lower legs and feet. The rash revealed desquamation, especially on the trunk and face. There was facial and hand edema and also hyperemia of the oral mucosa. The patient's fever increased to 39.9°C and she developed bloody diarrhea and hypotension (blood pressure of 86/40).

Although the surgical incision showed no evidence of infection and an abdominal CT scan demonstrated no definite fluid collection, she underwent exploration of her incision, graft site and abdomen. No evidence of abscess was identified, and minimal serosanguinous fluid was present. Following surgery however, the patient's fever decreased in severity and 2 days later, she received Vancomycin. Her fever and rash resolved within 48 hours. She subsequently underwent full-thickness desquamation of her palms. Cultures of serous fluid obtained at surgery and incision site swabs were negative except for one which grew *staphylococcus epidermidis*.

## Comment

TSS results from toxins produced by *Staph aureus* (pyrogenic exotoxin C and enterotoxin F).<sup>2</sup> Clinical features of TSS include high fever, profound hypotension, profuse diarrhea, erythroderma, mental confusion and involvement of multiple organ systems. Initial symptoms and signs of toxic shock are intense myalgias, fever, vomiting and diarrhea. Patients are often confused but do not have focal neurologic or meningeal signs. Severe hypotension develops rapidly with hypovolemic shock. Typically a deep-red "sunburn" rash develops within a few hours.<sup>2</sup> Five to 10 days after development of the rash, a fine desquamation occurs on the face, trunk and extremities. This is usually followed by the nearly pathognomonic full-thickness, peeling desquamation of

TABLE 1  
CRITERIA FOR THE DIAGNOSIS OF TSS

Temperature $\geq 38.9^{\circ}\text{C}$	(100) <sup>1</sup>
Rash with subsequent desquamation, especially on palms and soles	(100)
Systolic blood pressure $< 90$ mmHg	(100)
Involvement of $\leq 3$ of the following organ system:	
Gastrointestinal: vomiting, profuse diarrhea	(89)
Muscular: severe myalgias or $> 5$ -fold increase in creatine phosphokinase	(96)
Mucous membranes (vagina, conjunctivae or pharynx): frank hyperemia	(73)
Renal insufficiency: blood urea nitrogen or creatinine at least twice the upper limit of normal with pyuria in the absence of urinary tract infection	(75)
Liver: hepatitis; bilirubin, SGOT, SGPT at least twice the upper limit of normal	(54)
Blood: thrombocytopenia $< 100,000$ per mm <sup>3</sup>	(53)
Central nervous system: disorientation without focal neurologic signs	(59)
Negative results of throat cultures, CSF culture, serologic test for Rocky Mountain Spotted Fever, leptospirosis and measles	

<sup>1</sup> Percentage of patients with this finding on presentation.  
Adapted from References 1,9

the palms and/or soles. Major causes of death in TSS are adult respiratory distress syndrome, intractable hypotension and hemorrhage due to disseminated intravascular coagulation.

Definitive diagnosis of TSS requires meeting all of the criteria established by the Centers for Disease Control (Table 1). Many cases do not meet these strict epidemiologic criteria. These cases are often milder and do not present with life threatening hypotension. Tofte and Williams proposed a case definition of "probable TSS."<sup>4</sup> For a diagnosis of probable TSS, 3 or more of the criteria shown in Table 1 must be present with desquamation of the rash; or 5 or more criteria must be present in the absence of desquamation.

Our patient met all of the major criteria because of a fever of more than 38.9°C, systolic blood pressure  $< 90$  mm Hg, rash with subsequent desquamation, gastrointestinal involvement with diarrhea and vomiting, oral mucous membrane hyperemia and myalgias. She did not manifest central nervous system symptoms, thrombocytopenia or hepatitis and it was difficult to assess renal insufficiency due to her chronic renal failure.

## Differential Diagnosis of TSS

Because TSS presents with a broad spectrum of clinical manifestations with multiple

TABLE 2  
DIFFERENTIAL DIAGNOSIS OF TOXIC SHOCK SYNDROME

Mucocutaneous lymph node syndrome	Rubeola and rubella
Streptococcal scarlet fever	Meningococemia
Staphylococcal scarlet fever syndrome	Staphylococcal scalded skin
Rocky Mountain spotted fever	Bullous impetigo
Leptospirosis	Erythema multiforme
Viral exanthematous disease	Toxic epidermal necrolysis
Drug eruptions	Acute rheumatic fever
Stevens-Johnson syndrome	Graft versus Host Disease
Causes of isolated fever, hypotension, GI, renal, hepatic or muscle disease must be considered.	

Adapted from Reference 2 and 9

organ system involvement and there are no definitive diagnostic or laboratory tests, it is necessary to differentiate it from a large number of diseases causing rash and fever, as listed in Table 2. Many of the diseases on this list can be differentiated from TSS on clinical grounds and with laboratory evaluation, but several are very similar and more difficult to differentiate.

Prominence of hypotension and absence of group A streptococcal infection by culture or serologic means eliminate the diagnosis of scarlet fever. Bullous lesions and a positive Nikolsky sign are commonly found in staphylococcal scalded skin syndrome and toxic epidermal necrolysis, but not in TSS. However, bullae have been described in one patient with TSS.<sup>5</sup> A febrile drug eruption is the most common process mistaken for TSS, but diarrhea and hypotension occur in TSS and are not commonly present in drug eruptions, helping to distinguish these 2 entities. In addition, biopsy of the rash can help distinguish between TSS and toxic epidermal necrolysis due to drug allergy.<sup>6</sup>

Kawasaki's disease resembles TSS but almost always occurs in young children with prominent lymphadenopathy and is accompanied by a more prolonged course. Meningococemia and Rocky Mountain spotted fever superficially resemble TSS in their early stages with rash, confusion and variable hypotension, but lack of tick exposure, the absence of petechiae and a normal CSF examination are more suggestive of TSS. In patients with recent transplantation or transfusions with incompletely matched blood, graft versus host

disease must be considered. Skin biopsy should differentiate the two.

The majority of TSS cases are related to menstruation. Nonmenstrual cases accounted for 6% of reported cases prior to 1981; however, by 1982 nonmenstrual cases had increased to 15%. This increase was probably due to changes in the pattern of tampon use and improved recognition of TSS in different clinical settings because of the widespread publicity TSS received in the early 1980s. Postoperative TSS makes up a small percentage of cases of TSS. Less than 1% of cases reported to the CDC between January, 1980 and August, 1987 were the result of postoperative complications.<sup>7</sup>

Postoperative cases of TSS typically have their onset 1 to 7 days postoperatively, although Barlett and colleagues reported a median onset of symptoms 48 hours following surgery.<sup>3</sup>

An important and misleading aspect of postoperative TSS is that signs of local wound infection are usually absent. In one series, local signs of infection were absent in 15 of 17 cases.<sup>4</sup> Our patient demonstrated no external signs of infection at the operative site; only a fluid collection noted previously on ultrasound and computerized tomography suggested possible infection.

As with our patient, surgical exploration often does not reveal evidence of a wound infection.<sup>1,3</sup> Absence of local signs of infection at the operative site does not rule out the existence of a *Staph aureus* infection capable of producing the toxins that cause TSS.<sup>3</sup> The resolution of symptoms following surgical drainage of the operative site supports this location as the source of the underlying staphylococcal infection in our patient. As in TSS associated with menstruation and tampon use, postoperative TSS patients usually have negative blood cultures.

## Treatment

Acute treatment of TSS involves aggressive fluid resuscitation aimed at maintaining adequate circulating volume, cardiac output, blood pressure and perfusion of vital organs. A thorough patient evaluation including a pelvic exam to look for any tampon, diaphragm, cervical cap or contraceptive sponge should be done. Also a search for a localized *Staph aureus*

(Continued next page)



infection must be undertaken. Cultures should be obtained from the vagina, rectum, conjunctiva, oropharynx, anterior nares, and any site of localized infection. Blood and urine should also be obtained for culture, and when clinically indicated, spinal fluid examined and cultured. Serologic studies should be obtained to rule out Leptospirosis, rubeola and Rocky Mountain spotted fever.

The use of beta-lactamase resistant anti-staphylococcal antibiotics are useful in cases of bacteremic TSS; however the appropriate use of antibiotics has not proven significant in affecting outcome in non-bacteremic TSS.<sup>2</sup> The crucial treatment of postoperative TSS is supportive, symptomatic therapy to correct hypovolemic shock, electrolyte imbalance and acidosis and prompt surgical drainage of the infected site.<sup>1, 3, 8</sup> In the case of our patient, her 14 day course of fever resolved only after surgical exploration and Vancomycin therapy.

### Summary

In summary, non-menstrual TSS is potentially lethal if overlooked. Postoperative TSS

can be particularly difficult to diagnose because patients often present with mild non-specific, "flu like" symptoms and usually do not have evidence of local wound infection. It is therefore important to have a high suspicion index of occult wound infection complicated by TSS in postoperative patients with fever, rash, gastrointestinal symptoms or hypotension.

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# Constipation in Infants and Children

VERA LOENING-BAUCKE, M.D.  
Iowa City, Iowa

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***Chronic constipation in children can cause serious problems if left untreated. The author discusses the physiology of constipation and effective treatments.***

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CONSTIPATION RESULTING IN DIFFICULTIES with defecation is a common problem in infants and children. Most school-aged children pass at least three stools per week, with the average being one stool per day. Therefore, constipation in them is defined as less than 3 stools per week. In infants and toddlers stool frequency depends on age. A number of studies reveal a decline from more than 4 stools per day during the first week of life, to 2 stools per day at one year of age, to one stool per day at 4 years of age.<sup>1</sup> Due to large differences in stool frequency at varying ages, deviation from normal patterns of defecation which might justify a diagnosis of constipation has not been clearly delineated in infants and toddlers. For example, the neonate who easily eliminates stool one time a day is usually not considered to be constipated even though this is much lower than the average of 4 stools per

day. However, between 6 and 12 months of age, when the number of stools per day normally decreases, this infant may begin to skip days and eliminate small dry pieces of stool, often with straining. Now it is called constipation.

Usually, between the ages of 1 and 2 years, children with a tendency toward constipation may develop a new set of problems related to stool retention and a marked decrease in the frequency of bowel movements. In some, it develops gradually. In others, an acute episode of constipation may follow a change in diet or environment, febrile illness, a period of dehydration or bedrest. Passage of these formed stools may be painful and result in anal irritation or anal fissure. Increasingly aware of defecation control, the child begins to withhold stool to avoid discomfort.

When the "call to stool" is experienced, a child may forcefully contract the anal muscles. Increased anal muscle activity during defecation contributes to chronic stool retention. The rectum accommodates to the contents and the urge to defecate gradually passes. As the cycle is repeated, greater amounts of stool collect in the rectum with longer exposure to its drying action. Passage of the harder, larger stool causes greater pain, reinforcing the desire to withhold. Once withholding behavior begins, additional maneuvers may be carried out to afford greater leverage and less chance of losing the stool. Many children rise on their toes, hold their legs and buttocks stiffly together and grip a piece of furniture for reinforcement. We call this posturing the "duty

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dance." Initially, children may hide in a corner. As the stool becomes larger and more painful, severe screaming may accompany the duty dance. Parents too often misinterpret this behavior to represent attempts at defecation rather than withholding. Defecation attempts in a standing or a lying down position with legs extended is withholding. An occasional child assumes a squatting position while withholding.

If stool retention remains untreated for a prolonged period, the rectum will become so filled with stool that formed, soft or semiliquid stool leaks around the accumulated firm stool

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*'Children with constipation often have additional symptoms like daytime wetting, bedwetting, urinary tract infections and abdominal pain.'*

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mass. This is called involuntary fecal soiling, overflow incontinence or encopresis. Soiling can consist of a smear, smearing all day long, a partial or a complete bowel movement. These children are dirty while awake and tend to have little, if any, soiling when asleep.

Parents often assume the soiling is due to the reluctance of the child to use the toilet, while most of these unfortunate children have decreased rectal sensation or do not experience an urge to defecate.<sup>2</sup> Children with stool soiling deny the presence of stool in their underclothes and the accompanying fecal odor. Parents usually find this situation frustrating, and soiling becomes a major issue of contention. Parents frequently date the onset of their child's problem to the sudden appearance of the soiling, an indication of how little attention was paid previously to the child's bowel habits. Often constipated children will have bowel movements daily or several times daily, but stool evacuation is incomplete as evidenced by periodic passage of very large amounts of stool, sometimes large enough to clog the toilet. Sometimes incomplete evacuation is evidenced by a very large amount of stool in a dilated rectum. In one-third of patients, a suprapubic fecal mass is present which might

extend up to the umbilicus (megarectum). In 10-15%, the entire colon is distended (megacolon).

Hirschsprung's disease must be considered when evaluating an infant experiencing difficulty passing stools. Hirschsprung's disease accounts for 20-25% of cases of neonatal obstruction. The typical newborn fails to pass meconium during the first 48 hours of life, has abdominal distention and finally bilious vomiting. Approximately 3% of infants less than 12 months of age with defecation difficulties will have Hirschsprung's disease. The percentage is much higher if failure to thrive, ribbon-like stools and abdominal distension are present.

The term "psychogenic" constipation is unfortunately applied to children with idiopathic constipation in whom stool retention and a large rectum occurs and in whom an underlying disease like neurogenic causes, endocrine causes, anal lesions and constipating drugs have been ruled out. (References 3 and 4 give a more complete listing of rare causes of constipation with or without fecal soiling.) Emotional and behavior problems may be significant in the face of withholding, involuntary soiling and subsequent punitive action by parents who misunderstand the dynamics of the problem. Appropriate therapy for constipation often results in early and complete resolution of the symptoms and the emotional tension. Our research suggests that emotional and behavioral disturbances are more often the consequence of stool soiling rather than its causes.<sup>5</sup> Children with constipation often have additional symptoms like daytime wetting, bedwetting, urinary tract infections and abdominal pain. Most often, daytime wetting, urinary tract infections and abdominal pain resolve with appropriate therapy for constipation.

### ***Pathophysiology and Etiology***

Fecal continence requires normal action of the anal sphincters, normal sensory receptors in the rectum and anus and a normal rectal reservoir. Continence and defecation involve coordination of many reflex mechanisms. The entry of a fecal bolus into the rectum results in contraction of the right side of the colon and rectum and relaxation of the internal and external anal sphincters.<sup>6</sup> When it is socially inconvenient to defecate, the external sphincter

contracts. When it is socially convenient, the intraabdominal pressure is increased voluntarily and expulsion of stool occurs.

Several anorectal physiologic abnormalities have been found during anorectal function testing with one or several abnormalities present in 97% of children who have no obvious organic cause for constipation or encopresis.<sup>7</sup>

a) Abnormalities in rectal and sigmoid sensations have been found in these children.<sup>2</sup>

b) Rectal distention does not produce vigorous rectal contractions in many of these children.<sup>8</sup>

c) Abnormal contraction of the external anal sphincter and pelvic floor during defecation was observed in 50% of patients.<sup>9</sup> This is a common abnormality in children who have not responded to laxative treatment.

## Management

Most children with chronic constipation with or without encopresis will benefit from a well-organized treatment plan. The therapy should be appropriate for the severity of the disorder and the age of the child. Treatment includes:

**Education:** The stooling problem is caused by the underlying constipation and not by a disturbance in the psychological behavior of the child. Soiling occurs involuntarily and usually without the child's knowledge. The management plan should be explained in detail.

**Evacuation of stools with enemas:** Initial disimpaction should always be accomplished in the physician's office. A hypertonic phosphate enema can be used, with 1 oz/5 kg body weight in very young infants and an adult-sized enema (4.5 oz) for children over 20 kg. In most children, one to two enemas will clean the bowel. It is important that the child is reevaluated after the enema to determine that disimpaction has occurred.

**Prevention of reaccumulation of stools:** Daily defecation should be maintained by daily administration of laxatives beginning on the evening of the bowel cleanout. Laxatives should be used according to age, body weight and severity of the constipation (Table 1). It appears the choice of medication is not as important as a high enough dosage and the child's and parent's compliance. Laxatives need to be continued for 3 months to help the distended bowel regain some function and then reduced in small decrements.

TABLE 1  
SUGGESTED DOSAGES OF COMMONLY USED LAXATIVES

	Age	Dose
Malt soup extract (Maltsupex)	Infant	Breast fed: 5-10 ml in 2-4 oz of water or fruit juice twice daily Bottle fed: 7.5-30 ml in day's total formula or 5-10 ml in every second feeding
Karo syrup	Infant	Dose is the same as that of malt soup extract
Milk of Magnesia	>6 months	1-3 ml/kg body weight/day, once daily
Mineral oil	>6 months	Dose the same as that of Milk of Magnesia
Lactulose	>6 months	Concentration 10 gm/15 ml: 1-2 ml/kg body weight/day divided in 2 doses
Senokot syrup	1-5 years	5 ml at bedtime, maximum 5 ml twice daily
	5-15 years	10 ml at bedtime, maximum 10 ml 3 times daily (10 ml equals 1 teaspoon granules)

Occasionally, stimulants like Senokot can be used for a few months. Children over 6 years can be given the choice of either daily oral laxatives or a 10-mg bisacodyl suppository, one of which is inserted daily before breakfast into the rectum for the initial 2 months. The advantage of suppository treatment is the bowel cleanout is accomplished prior to leaving for school and soiling is rare. After 2 to 3 months the patient should be switched from suppositories to an oral laxative.

A normal diet with adequate fiber and low quantities of refined sugar is advised.

## Reconditioning the Child

**Toddler:** Toilet training attempts in a young child who resists potty sitting should be abandoned. The child can be put back into diapers. Toilet training can be resumed when normal bowel patterns are accomplished. Rewards for toilet sitting and for bowel movements into the toilet are given.

The older child is required to sit on the toilet for up to 5 minutes, 3-4 times a day following meals. Defecation trials are very im-

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portant and are a must in any treatment program.

Normal defecation patterns can be taught using biofeedback training.<sup>10</sup> Biofeedback training is labor intense, costly and available only in a few specialized centers. Most patients who relax the pelvic floor during defecation recover while few of those with abnormal contractions will have recovered 12 months after laxative treatment was begun.<sup>8</sup> Therefore, biofeedback training may be optional for children who have an abnormal contraction of the external sphincter and pelvic floor during defecation and have complied but failed a conventional treatment program.

The children and their parents are instructed to keep a daily record of bowel movements, fecal soiling and medication use. This helps monitor compliance and helps to make appropriate adjustments in the treatment program.

**Follow-up Visits:** Since managing this disorder requires considerable patience and effort on the part of the child and parents, it is important to provide necessary support during treatment. Infants and toddlers usually require medication for 1-3 months. Fifty percent of children 5 years and older will be off laxatives and have no recurrence of their symptoms 12 months after start of treatment.<sup>2, 8, 9</sup> Another 15 to 20% may be weaned within 1 to 2 years. The remainder will continue to require laxatives for daily bowel movements, some into adulthood.

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## A Case of Mistaken Identity

**A** 59-YEAR-OLD MAN WAS ADMITTED to University of Iowa Hospital for evaluation of fever, pulmonary infiltrates and pancytopenia.

### *Clinical Findings*

**Tina Wald, M.D., Internal Medicine:** The patient developed weakness, malaise, dyspnea and a non-productive cough in late 1988. These symptoms persisted and a bronchoscopy was performed in February of 1989. Pathology showed noncaseating granulomas and a diagnosis of sarcoidosis was made. Oral steroids were administered from February to June of 1989 with resolution of symptoms.

Malaise and cough returned in September of 1989. Despite 60 mg of Prednisone per day, symptoms worsened to include fevers, chills, night sweats, a 10-15 pound weight loss, dyspnea and a continued non-productive cough. He was hospitalized briefly in early November. Chest x-ray revealed a left perihilar infiltrate which improved with I.V. antibiotics. Also noted were bilateral perihilar fibrosis and small bilateral nodular densities which had not changed since the time of bronchoscopy. Prednisone was continued at a dose of 30 mg per day. Despite treatment, symptoms continued and he was readmitted in late November.

Temperature was 40.6°C, blood pressure 100/70, pulse 120 and respirations 20. No abnormalities were noted on physical examination.

Laboratory examination showed a WBC of 3700/ul, Hb 12.2 g/dl, hematocrit 35.4% and

platelet count 18,000/ul. WBC differential showed 81% polys, 11% bands, 4% lymphocytes, 3% monocytes and 1% eosinophils. Electrolytes, BUN and creatinine were normal. Sedimentation rate was 22. Chest x-ray was unchanged. Bone marrow smears and sections showed multiple epithelioid granulomas and negative acid fast and Gomori-methenamine silver stains. He was treated with I.V. antibiotics and the following day was transferred to University of Iowa Hospital.

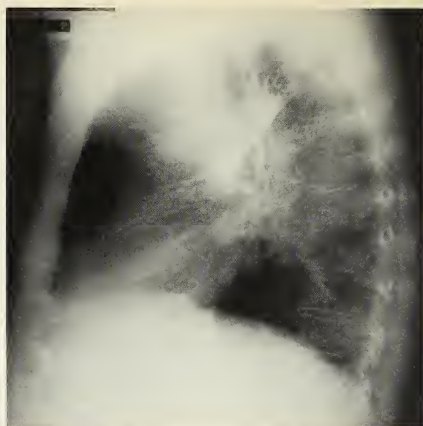
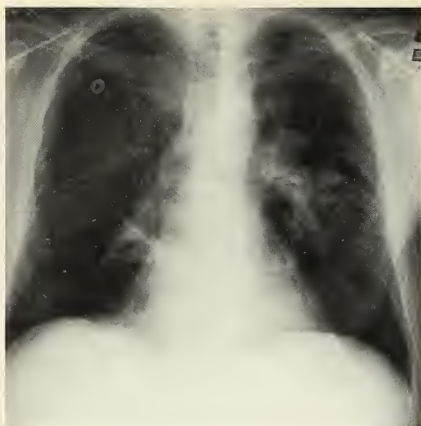
Past medical history was remarkable for excision of a basal cell carcinoma of the ear, a transurethral resection of the prostate and a history of "asthma" when exposed to moldy hay or animals. He was married and did not smoke or drink. He had worked for the last 27 years in a machinery company and also farmed.

Upon transfer, he was extremely diaphoretic. Temperature was 38.5, blood pressure 110/70, pulse 100 and respirations 20. Physical examination was unchanged except the liver was mildly enlarged, spanning 12-14 cm, and the spleen was 4 cm below the left costal margin.

Laboratory examination showed a WBC of 2900/ul, hemoglobin 10.7 g/dl, hematocrit 30% and platelets 14,000/ul. Protein was 5.1 g/dl, albumin 2.6 g/dl, calcium 7.6 mg/dl, phosphorus 2.5 mg/dl, glucose 173 mg/dl, uric acid 3.6 mg/dl, bilirubin 0.8 mg/dl, alkaline phosphatase 62 IU/l, LDH 457 IU/l and AST 54 IU/l. PT was 12.0 seconds (normal 10-13), PTT 60 seconds (normal 22-39), FDP > 80 mcg/ml and fibrinogen 248 mg/dl (normal 160-340). Bleeding time was 25 minutes (normal 2.5-9.5). Urinalysis was normal. Arterial blood gas on 3

This material is furnished by the Department of Internal Medicine, University of Iowa College of Medicine.

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Figures 1 and 2. Chest x-ray showed diffusely prominent bronchovascular markings and a focal infiltrate in the left upper lobe.

liters of oxygen by nasal canula showed a pH of 7.44,  $p\text{CO}_2$  40 torr and  $p\text{O}_2$  84 torr. Chest x-ray showed diffusely prominent bronchovascular marking and a focal infiltrate in the left upper lobe. (Figures 1 and 2.) The patient was admitted to intensive care and a diagnostic procedure was performed.

### *Clinical Discussion*

**Stephen Hempel, M.D., Internal Medicine:** This is a 59-year-old male admitted with a prolonged febrile illness associated with pulmonary infiltrates and pancytopenia. The history is notable for biopsies showing non-caseating granulomas and a clinical response to corticosteroids. The patient subsequently became unresponsive to steroids and at the time of admission was malnourished and toxic and had a coagulopathy, elevated LFT's and hypoxemia. The chest x-ray, in addition to the prominent bronchovascular markings and left upper lobe infiltrate, showed diffusely increased interstitial markings with small nodules. This chest x-ray pattern carries a broad differential which I will briefly review. I will then discuss granulomatous diseases, which may also produce this pattern.

Some of the diseases which may have this chest x-ray pattern include: idiopathic pul-

monary fibrosis, any of the collagen vascular diseases including rheumatoid arthritis, scleroderma, systemic lupus erythematosus, polymyositis, dermatomyositis, Sjogren's syndrome or mixed connective tissue disease. Additional syndromes, which I do not believe this patient has, would include chronic eosinophilic pneumonia, lymphangioleiomyomatosis, histiocytosis-x or alveolar proteanosis.

Occupational lung diseases would include silicosis, asbestosis or berylliosis. There is no evidence in the clinical history that he was exposed to any of these agents. The question of farmer's lung is raised by the clinical history. Additional related hypersensitivity pneumonias such as humidifier lung or air-conditioner lung should be considered. Many medications including Bleomycin, Cyclophosphamide, Methotrexate, Nitrofurantoin, Hydralazine, Procainamide, Penicillamine and even Hydrochlorothiazide may present with interstitial lung disease with or without nodules.

Among diseases which may cause non-caseating granulomas in the lung is sarcoidosis, which was the initial working diagnosis in this case. This disease is population specific, more common in blacks than in whites and more common in Scandinavians than other Caucasians. The disease is usually asymptomatic.

matic, however, it can present with dyspnea, cough and wheezing. During the acute presentation there can be fever, arthralgias and erythema nodosum. Presence of erythema nodosum is considered a marker of more benign and frequently self limited disease. Fatigue, weight loss and anorexia, as in this case, are uncommon. The most frequent presentation is asymptomatic hilar adenopathy found on routine chest x-ray. The diagnosis of sarcoidosis is made by identification of non-caseating granulomas in tissue. A lymph node biopsy usually has the highest yield and is often the safest. Transbronchial lung biopsy is also very useful and is positive in 60% of patients with normal x-rays and in 85-90% of patients with abnormal chest x-rays. It is important to remember that sarcoidosis often does not require therapy. Treatment should be reserved for patients with objective evidence of organ injury. Non-caseating granulomas can also occur in tuberculosis, fungal infections, lymphomas and vasculitis. Therefore, these other disorders must be ruled out before a diagnosis of sarcoidosis can be entertained.

Lymphoma may present with fever, weight loss, malaise and fatigue. Pulmonary involvement with this disorder is common and there may be associated hepatosplenomegaly and bone marrow involvement with anemia, leukopenia and thrombocytopenia, as in this case. Lymphocytic interstitial pneumonia is a lymphocytic infiltrative process which may present with cough, dyspnea and fever. It presently is a diagnostic criteria for AIDS in children. It is often associated with Sjogren's syndrome and/or rheumatoid arthritis. Granuloma formation may occur. It can progress to a frank lymphoma. Lymphomatoid granulomatosis is a lymphoma-like disorder which frequently presents with pulmonary, CNS, skin and renal lesions.

Hypersensitivity pneumonitis is also in the differential. This is typically characterized by fevers, dyspnea and cough 4-6 hours after antigen exposure with associated spontaneous resolution. However, recurrent exposure can result in chronic interstitial disease. A toxic presentation such as this would be unusual.

Tuberculosis remains a concern in Iowa. This disease frequently causes fever, night sweats, weight loss and cough. It can involve any organ system and hepatosplenomegaly, as in this case, is common in the disseminated

form. In addition, bone marrow involvement with pancytopenia occurs in disseminated tuberculosis.

Fungal infections would also be in the differential diagnosis of this case. These include: histoplasmosis, blastomycosis, coccidioidomycosis, cryptococcus and aspergillosis. Since this patient was not initially neutropenic, it is unlikely this is an aspergillosis infection. However, the remaining 4 fungal diseases are all in the differential.

Histoplasmosis is the most common fungal disease in Iowa. About 90% of histoplasma infections are asymptomatic or present with a

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*'Fungal infections would also be in the differential diagnosis of this case. These include: histoplasmosis, blastomycosis, coccidioidomycosis, cryptococcus and aspergillosis.'*

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simple flu-like illness for which the patient does not seek medical attention. The primary pulmonary infection is often characterized by cough, fever, myalgias, stomach pain and pleuritic chest pain. There may be associated dyspnea, cyanosis, deep chest pain and pericarditis. There may be the additional symptoms of erythema nodosum, erythema multiforme and a rash and/or arthralgias. Patchy pulmonary infiltrates with/ or without hilar and/ or mediastinal adenopathy are frequently seen on the chest x-ray. Splenic calcification seen on chest x-ray or abdominal flat plate is considered pathognomonic of previous infection.

Patients with underlying parenchymal disease may also develop a chronic pulmonary form of the disease. Histoplasmosis reinfection is characterized by a shorter incubation period, a miliary chest x-ray pattern and often does not have hilar adenopathy. Massive exposure a second time to histoplasmosis may result in a fulminant pulmonary process with respiratory failure.

Disseminated histoplasmosis occurs in infants and males over 40 years of age. It often follows a period of immunosuppression. Presenting manifestations include: weight loss,

*(Continued next page)*



fever, malaise and weakness. Ulcers of the oral pharynx, nasal pharynx or larynx with associated dysphagia or hoarseness occur in 90%. GI ulcers are also common. Hepatosplenomegaly with anemia, leukopenia and thrombocytopenia is frequently found. Adrenal insufficiency with symptoms of Addison's Disease is also common. Meningitis or focal cerebritis also can occur with disseminated histoplasmosis.

Diagnosis of histoplasmosis requires recovery of the organism, seen either in culture or on silver stain. In primary infection recovery of the organism can be difficult. In the disseminated form organism recovery is often easier. It has been reported that oral lesions are positive for the organism 91% of the time, lymph nodes 72%, bone marrow 70%, sputum 60%, blood 54%, CSF 45% and the urine is positive about 43% of the time in cases of disseminated disease. Other tests which may be helpful but not diagnostic include: a complement fixation test of 1:32 or a 4-fold rise in titer. Immunodiffusion may reveal an M and an H band. The H band is suggestive of active infection. A latex agglutination of 1:16 or greater is suggestive of the disease. It is important to know that the skin test is of minimal utility in diagnosing this disease.

What do I think about this patient? I believe the diagnostic procedure was a bone marrow biopsy. It is of low risk and is easily obtained. A second possibility would have been repeat bronchoscopy with transbronchial lung biopsy. Sarcoidosis is a possible diagnosis. However, the lack of response to Prednisone therapy makes this unlikely. The second possibility would be tuberculosis, but I believe the organism would have been recovered previously. While the clinical history raises a question of hypersensitivity pneumonitis, this disorder would not give granuloma formation in the bone marrow.

I believe the most likely diagnosis is disseminated histoplasmosis. This disease would account for his fevers, chills, night sweats, weight loss, the non-caseating granulomas and his pancytopenia. The initial response to Prednisone was most likely due to its anti-inflammatory effects.

*Pathologic findings:* Bone marrow biopsy with silver stain confirmed the diagnosis of disseminated histoplasmosis.

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## Recent Books

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Foley, Conn and H. F. Pizer, 1990, *The Stroke Fact Book*, revised and updated edition, Courage Press, Golden Valley, Minnesota, paperback \$12.95. The lay reader is informed at the beginning that "this book is not intended to replace your own physician with whom you should consult before taking any medication or considering treatment." Our patients wish to be informed. Medical texts are beyond the understanding of most of them. A common complaint from patients echoes one feeling that their physician does not spend enough time discussing all the ramifications of their problems. This book helps fill that desire for knowledge about strokes. The what, where and how are discussed. Prevention, immediate care and rehabilitation are considered. Entitlement programs, resources and state agencies are listed. This second edition is a product of the Courage Stroke Network with home offices in Minnesota.

Heimlich, Jane, 1990, *What Your Doctor Won't Tell You*, Harper Collins Publishers, New York, New York, paperback \$10.95, cloth \$21.95. Written for lay persons, this guide to alternative medicine may give physicians an insight to other forms of medical advice patients may receive. The author has researched the latest non-conventional treatments for many prevalent diseases. Several chapter titles are: Treating high blood pressure without drugs; Arthritis — try nutrition first; Constipation — how to banish it from your life; Treating disease with vitamins and minerals. Physicians should know what alternatives their patients may be trying without first consulting them. For that reason, knowing the approaches provides better understanding of the patient.

Heegaard, Marge and Chris Ternand, 1990, *When a Family Gets Diabetes*, DCI Publishing, Minneapolis, Minnesota, paperback \$6.95. Designed for children with newly diagnosed diabetes this "coloring book" is of value not only to the child but the family as well. By working with the child, family members can gain knowledge and acceptance of the disease.



Marion E. Alberts, M.D.



# Happiness and Gratitude

*Nothing is more honorable than a grateful heart.*  
Seneca, Lucius Annaeus,  
Roman philosopher and moralist, c AD 5-65

*Swift gratitude is sweetest; if it delays, all gratitude is empty and unworthy of the name.*

Anon, Greek anthology

**D**OES GRATITUDE MAKE A PERSON HAPPY? Or, is one grateful because of happiness? One can be grateful for good health, a warm home, food and good friends; but, does that foster happiness? To some those possessions are accepted as though deserved. Gratitude does not enter into the picture. They are "gimme's"; nothing more, nothing less.

Gratitude can go beyond life's necessities. A home, food, warmth and health are only a small part of our existence. Our surroundings are more than material things. The ever changing wonders of nature constitute treasures beyond measure. Yet, many pay no heed. The climate, especially one so varied as Iowa's, presents a continuing panorama of delights. Some would argue that snow, ice, intense heat and storms are not much for which to be grateful. There is purpose in all things and the vicissitudes of our surroundings are for a reason. Snow and/or rain are essential for plant growth, as is warmth. We now seldom see the use of fire to clear land for the next year's harvest, but it was accepted in the past that prairie fires fostered a better stand of grass the following year. The conflagration of the forests of Yellowstone Park are declared a blessing in disguise for the smaller plants previously

thwarted by the dense growth of trees. We can, thus be grateful for some forms of disaster. With others we rebuild and life goes on. That life goes on is reason for gratitude.

As we view the many things for which we have gratitude happiness should be the resulting emotion. In recent years we hear of many physicians who are unhappy with the climate of medical practice as it exists in the United States today. I suggest they look at the entire picture. The mission of medicine is to prevent illness and treat those who are ill or injured. The tools and knowledge available to physicians compared to the beginning of this century are phenomenal. Surgical techniques, antimicrobials, vaccines and chemotherapeutic agents, to name only a few, are far and above the past restrictions to care and treatment. Crude surgery, quinine and other herbal medicines plus the faith in the total ministrations of the physician characterized past medical practice. Today we physicians, along with our patients, can have tremendous gratitude for the advances of medical knowledge.

Gratitude for the availability of excellent care can only provide an abundance of happiness to all. We physicians should be happy to have the knowledge and skills available to us today. How can we cry out in anguish against the problems that beset medical care . . . I need not reiterate all that bothers us . . . when we have so much to offer and receive so much in return?

Truly, we can be grateful for what we can offer to our patients, and for that we should be happy. Gratitude begets happiness, and happiness should lead us to demonstrate a feeling of gratitude. The two attributes are inseparable. — M.E.A.

Richard M. Caplan, M.D.

# Number 200



A PHYSICIAN COLLEAGUE, now in retirement calling himself a clinical epistemologist, challenged me recently when he learned I was preparing to write my 200th column for this space. Being the sort of person who likes to make me defensive by tossing out little challenges like "Prove that God exists and cares about people," he said casually, "What have you been trying to accomplish with that column?" It was actually a sub-division of the major, repeated question, put by all the philosophically inclined — "What have you done and what will you do with your life?" After I closed my dropped jaw, I decided to listen to myself talk and in that way learn what I thought.

I recalled that the first of these little ruminations, published in April, 1971, arose from a suggestion by Dr. John Eckstein, newly my boss as Dean of the University of Iowa College of Medicine: "How about writing a little item each month for the *Journal of the IMS* to tell readers what's happening in the newly expanding world of continuing medical education here?" The editorial staff either thought it an acceptable idea to try, or they felt desperate for material. That was how it started, anyway.

But could I now say that I have had a guiding mission, some underlying crusade, or putting it less dramatically, a point to it all? After all, NASA sensibly said "Let's try to land a man on the moon" rather than "Let's send a manned ship into outer space to meander around and see if it encounters anything interesting." In the arena of scientific research, history has shown that much good happens when investigators freely pur-

sue ideas where they lead, rather than attempt only to answer specific questions. But productive investigation or scholarship of any sort is not literally random. (Einstein's famous rejoinder to some of the implications of quantum mechanics, "God does not play dice with the universe," has been answered, "Yes He does, but He uses loaded dice.")

So I cannot truly say these little essays continued the original "mission," but have instead represented a kind of kaleidoscopic imagery — refractions through my mind of events, trends, comments, but always bearing at least slightly on the process of medical education, and especially as it might interest or influence the thinking or behavior of practicing physicians. Perhaps, I console myself, a fresh perspective will somehow move others. If I can provide a suitably warm, productive image, even occasionally, the spark ignited might somewhere flame into something useful and/or beautiful, even though I could not in advance have guessed what. Maybe I, or you, can consider my mind a sort of flint which sometimes, after proper luck and coaxing, might generate such sparks. Any statement of the column's purpose needn't fully anticipate what, if anything, the sparks will ultimately accomplish. A helpful definition of a teacher, undoubtedly my self-identification, is "a person who arranges learning opportunities." Perhaps what appears here may be construed in some way as such an opportunity.

Obviously, I must thank the IMS and its journal for the rare privilege they have granted me to relate the journeys of my butterfly mind. The editorial staff and I have had remarkably few debates about choice of words, expressions or punctuation, and none

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Dr. Caplan is Associate Dean for Continuing Medical Education at the University of Iowa College of Medicine.

about ideas or attitudes; our only real show-down concerned length, about which they feel more strict than I. We reached a compromise after I proposed to satisfy their space requirements by using smaller type-size for the banner and headline and omitting my photograph. No, design considerations forbade such reasonableness. Instead, they suggested deleting alternate words from my text. Naturally I protested, suggesting that concepts be left grammatically intact, but that perhaps omitting every other sentence would respond to their need. We finally seized on the brilliant remedy of striking alternate paragraphs — or at least until the piece would fit into the allotted space. So at last you understand those instances when something disturbed you about my overall flow and coherence. This must surely be the explanation. (Just kidding!)

But seriously (as comedians say, but never mean it), I must express my deep gratitude to *IOWA MEDICINE* for the rare privilege of entering the minds of others, or at least granting me a forum to try. I don't bill them for what I send and they don't offer payment; they don't bill me for printing it and I don't offer payment — so our arrangement seems equitable. Reward comes when a physician (or spouse), whom I have sometimes known before and sometimes not, remarks out of the blue at having read my column, and thus elevates me to cloud six. Sometimes that person lifts me to cloud seven by choosing a word of approbation, such as "interesting," or displaying rapture with "enjoyed," which takes me to cloud eight. Cloud nine is tough to reach, but has happened a few times when other publications requested permission to reprint an item, or when a few readers said I made them think, or even more rarely, act, or when a faculty colleague whom I scarcely know recently requested a copy of a column, "dealing with the inefficiency of education, which you published in the *Journal of the IMS*, I think, in 1977." It did indeed exist; I submit, that's practically an indicator of immortality.

Also I must thank you, whoever you are, who sometimes devotes a little precious time to read my self-indulgences — I use that term, for writing is a gratification, possibly even a kind of fulfillment after challeng-

ing oneself to attempt freshness, clarity, sometimes provocation, and the sharing of thoughts, some of them old coinage and some newly minted at the coercion of a deadline. Arthur Conan Doyle wrote in his autobiography, "If a man's thought is precise, his rendering of it is precise, and muddy thoughts make obscure paragraphs." It is my agreement with him that makes me look forward to the new version of the Medical College Admissions Test which all medical school applicants must take, for it will include two brief written essays, to be scored and included among the data to be considered by Admissions Committees.

I have found in these short essays the delight of playing with words and concepts, and have felt the pleasure of a kind of creativity that struggles to test whether Joseph Conrad was right when he said in *Heart of Darkness*: "It is impossible to convey the life sensation of any given epoch of one's existence — that which makes its truth, its meaning — its subtle and penetrating essence. It is impossible. We live, as we dream — alone."

P.S. As you see, the editor this time grew less rigorous (and sentimentally soft-hearted or superstitious about the number 200) and rather than strike alternate paragraphs, allowed the item to slosh past the usual confines of one page. Thank you, editor. Thank you, reader.

### IMS Annual Meeting and Scientific Session

April 19-21  
Marriott Hotel, Des Moines

Scientific Session topics include:

- Medical and legal issues surrounding withdrawal of medical treatment.
- "Substance Abuse: What Are We Doing About It?"

9½ hours of Category 1 AMA Recognition Award  
Register at the Marriott Hotel

Watch for details in the next  
IMS UPDATE  
Complete program in the March issue of  
IOWA MEDICINE



# Where there's smoke...there may be bronchitis

"Recent research has delineated early, more subtle changes in lung and immune functions. These alterations directly predispose smokers to respiratory tract infection."

Am Fam Phys 1987;36:133-140

**Ceclor**<sup>®</sup>  
pyridyl  
cefadroxil  
250 mg

**Established therapy  
for today's patients**

For respiratory tract infections due to susceptible strains of indicated organisms

#### Brief Summary

Consult the package literature for prescribing information. Indication: Lower respiratory infections, including pneumonia, caused by *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Streptococcus pyogenes* (group A  $\beta$ -hemolytic streptococci).

Contraindication: Known allergy to cephalosporins.

Warnings: CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

#### Precautions

- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of non-susceptible organisms.

- Positive direct Coombs' tests have been reported during treatment with cephalosporins.

- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

#### Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:

- Hypersensitivity reactions have been reported in about 1.5% of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions have been reported with the use of Ceclor. These are characterized by findings of erythema multiforme, rashes, and other skin manifestations accompanied by arthritis/arthralgia, with or without fever, and differ from classic serum sickness in that there is infrequently associated lymphadenopathy and proteinuria, no circulating immune complexes, and no evidence to date of sequelae of the reaction. While further investigation is ongoing, serum-sickness-like reactions appear to be due to hypersensitivity and more often occur during or following a second (or subsequent) course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults with an overall occurrence ranging from 1 in 200 (0.5%) in one focused trial to 2 in 8,346 (0.024%) in overall clinical trials (with an incidence in children in clinical trials of 0.055% to 1 in 38,000 (0.003%) in spontaneous event reports. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy; occasionally these reactions have resulted in hospitalization, usually of short duration (median hospitalization = two to three days, based on postmarketing surveillance studies). In those requiring hospitalization, the symptoms have ranged from mild to severe at the time of admission with more of the severe reactions occurring in children. Antihistamines and glucocorticoids appear to enhance resolution of the signs and symptoms. No serious sequelae have been reported.
- Stevens-Johnson syndrome, toxic epidermal necrolysis,

and anaphylaxis have been reported rarely. Anaphylaxis may be more common in patients with a history of penicillin allergy.

- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.

- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.

- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hyperreflexia, dizziness, and somnolence have been reported.

- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1% and, rarely, thrombocytopenia and reversible interstitial nephritis.

Abnormalities in laboratory results of uncertain etiology.

- Slight elevations in hepatic enzymes.
- Transient lymphocytosis, leukopenia, and, rarely, hemolytic anemia and reversible neutropenia.

- Rare reports of increased prothrombin time with or without clinical bleeding in patients receiving Ceclor and Coumadin concomitantly.

- Abnormal urinalysis: elevations in BUN or serum creatinine.

- Positive direct Coombs' test.

- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinistest<sup>®</sup> tablets but not with Tes-Tape<sup>®</sup> (glucose enzymatic test strip, Lilly).

PA 8791 AMP (021490LRI)

Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

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# Correct Use of Aminoglycosides

**I**NAPPROPRIATE MONITORING and administration of aminoglycosides are often identified during the IFMC's quality review.

Aminoglycosides should be used cautiously in patients with impaired renal function and in elderly patients. The weight of the patient also must be considered when prescribing doses. Excessive doses can contribute to renal failure or ototoxicity.

The following composite case illustrates misuse of gentamicin, an aminoglycoside, and inadequate laboratory monitoring of the drug.

## The Case

A 68-year-old 180-pound male was admitted with a history of chronic lymphocytic leukemia (CLL). The patient had tenderness about the left side of the abdomen which was noted by the attending physician to be diverticulitis.

The patient's home medications were continued on admission, including Lanoxin 0.25 mg daily. The potassium upon admission was 3.3. The nursing history noted the patient had complained of nausea after meals and had a poor appetite for a week prior to admission.

The patient was treated with analgesics and IV gentamicin 80 mg every 12 hours. A base line BUN and creatinine were drawn the day gentamicin was initiated and were reported as 5.5 and 1.2, respectively. He was discharged after a week and followed closely.

Two weeks later, the patient was readmitted with nausea and vomiting and was found to be digitalis toxic. The digoxin level was 3.4. Potassium was 3.2. He was given IV fluids and the digoxin level returned to normal. Thirteen days later he was discharged.

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This article was written by Stephen Harrison, M.D., a family physician in Clinton. Dr. Harrison is a reviewer for the Iowa Foundation for Medical Care.

## Reviewer Comments

The patient was not treated appropriately. On the second day after the first admission, an order was written for gentamicin 80 mg IV every 12 hours. The medication was continued for 5 days. Peak and trough gentamicin levels were not performed. Repeat renal function studies were not ordered during the first admission.

Peak and trough gentamicin levels, as well as repeat BUN and creatinine levels, should

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*'The decreased potassium on the first admission, which apparently was not repeated, may have been a contributing factor in the digitalis toxicity.'*

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have been done every 2-3 days during therapy. Attention to drug clearance and concentration in plasma is critical for effective and safe use of aminoglycosides.

Failure to monitor the patient's gentamicin peak and trough levels and BUN and creatinine levels placed the patient at increased risk for nephrotoxicity and renal failure. Also, the patient was given digoxin which, combined with failure to monitor the renal function studies while treating with gentamicin, caused digitalis toxicity. The decreased potassium on the first admission, which apparently was not repeated, may have been a contributing factor in the digitalis toxicity, especially since the potassium was still low on the second admission. Because the patient developed digitalis toxicity, this case was determined to be a severity level III: Confirmed quality problem with significant adverse effects on the patient.

## Agricultural Injuries

**A**GRICULTURE-RELATED INJURY IS A SERIOUS problem in Iowa and elsewhere. The Iowa Department of Public Health (IDPH) secured funding in 1989 from the Centers for Disease Control for surveillance of farm injury. The program is entitled "Sentinel Project Researching Agricultural Injury Notification Systems" (SPRAINS).

The SPRAINS program is designed to record all injuries on farms or agriculture-related "off farm" injuries serious enough to require medical care. Hospitals and certain clinics serve as sentinel reporters and are actively screened for case reporting. All other reporting is comparable to infectious disease reporting.

### *Reported Farm Injuries*

From January–October 1990, the program recorded 1,618 farm-related injuries; 289 (18%) were hospitalized and 70 were fatal. Machinery related incidents (539) accounted for 33% of injuries and 56% of deaths. Animals caused 17% of injuries and 2 deaths; falls/slips resulted in 174 (10.7%) injuries. Suffocation/submersion was reported in 5 fatalities, representing the third most common cause of death.

Machinery (539) remains the principal cause of farm injuries. Tractors (189) cause the most machinery related injuries (35%) and deaths (23 of 52). Tractor related deaths were: roll-overs—13, run-overs—4, tractor-auto accident—3, and loss of control—3. Roll over protective structures (ROPS) may have prevented 13 of these deaths. These devices are optional on new tractor sales. Iowa tractors, like Iowa farmers, are aging. Preliminary follow-up data indicate 84% of the tractors involved in injuries are over 10 years old.

There were 160 injuries to children 1-14 years old during January–October, 1990. Machinery mishaps (42) and animal incidents (29) were the most common. Six fatal injuries were reported in this group: 4—caused by machinery, 1—submersion/suffocation and 1—recreational vehicle accident.

The formalized epidemiologic study of injury in general and farm injury in particular is long overdue. We view injury very much like disease and know it does not strike its victims randomly or "accidentally." Risk factors will be identified and quantified, initially through surveillance and descriptive studies and later through analytic studies. This knowledge can be used to guide educational efforts and develop ways to reduce injury. We welcome and appreciate the support of Iowa physicians, hospitals and other health care workers.

Editor's note: To report agricultural-related injuries, call the Iowa Department of Public Health, 800/779-7559; or (515) 242-6333 or send a written report, FAX number (515) 281-4958.

### *Farm Related Respiratory Illnesses*

The Iowa Department of Public Health has included pesticide poisoning and farm-related respiratory illnesses (including farmer's lung and Silo Filler's disease) among its list of reportable and noninfectious conditions since 1989.

The IDPH has received reports of 9 cases of organophosphate/carbamate and 2 cases of organochlorine caused pesticide poisoning. Of these 11 cases, 4 were known to be farm-related, one was related to home and one to office workplace exposure. Three cases were of unknown origin. Seven cases of farmer's lung and Silo Filler's disease have been reported.

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This information on public health matters is furnished and sponsored by the Iowa Department of Public Health.

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## New Products and Programs

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**FDA APPROVES TYPHOID VACCINE** — A new oral typhoid vaccine has been approved for marketing by the FDA. Vivotif Berna is a live-bacterial vaccine in a coated 2-piece capsule. Four capsules are required for protection, one on each alternative day for 6 days. A booster dose is recommended after 5 years if exposure to typhoid is continuous or repeated. The vaccine is distributed in the U.S. by Berna Products Corp., Coral Gables, Florida (phone 1-800-533-5899). The July 13, 1990 (vol. 39, no. RR-10) issue of the *CDC Morbidity and Mortality Weekly Report* contains a full discussion of the use of typhoid vaccines.

**TUBERCULOSIS BOOKLETS NOW AVAILABLE** — The "scriptographic" booklets published by Channing L. Bete Co., Inc. are familiar to most physicians. These word-and-graphic booklets cover numerous subjects for the education of our patient-readers. A new issue is now available urging readers to be aware of tuberculosis and its prevention and treatment. For additional information and a complimentary copy of *About Tuberculosis (TB)* contact Sally Keir, Channing L. Bete Co., Inc., Dept. PR, 200 State Road, South Deerfield, MA 01373 or phone 1-800-628-7733.

**SCIENTISTS TARGET NUTRITIONAL IGNORANCE** — The American Council on Science and Health (ACSH) has charged that efforts to educate the public on nutrition through the labeling of certain foodstuffs as either "good" or "bad" is an inadequate consumer education tool. In addition, many nutritional reports reaching and influencing the public are incomplete and inaccurate. As a result, the consumer is left with a myriad of confusing and conflicting information, rather than a basic understanding of nutrition. In response to this charge, ACSH announced the release of *Food and Life: A Nutritional Primer*. The publication of the report highlights ACSH's efforts to educate properly the consumer on the basic tenets of nutrition. To obtain a copy of *Food and*

*Life*, send \$3.85 (includes postage and handling) to: PRIMER, ACSH, 1995 Broadway, 16th Floor, New York, New York 10023-5860.

**INCREASE IN LYME DISEASE CASES** — *Lyme Disease, an infection caused by the bite of an infected deer tick, is on the rise in the U.S. and worldwide, the American Council on Science and Health (ACSH) has concluded. The ACSH has revised and released Lyme Disease, a report describing the illness, its symptoms, prevention and treatment. The updated report offers a brief history and description of Lyme Disease in addition to information regarding detection and guidelines for increased prevention. To order a copy of Lyme Disease, please send \$3.85 (postage and handling included) to: Lyme Disease, the American Council on Science and Health, 1995 Broadway, 16th Floor, New York, New York 10023-5860.*

**BOOKLET TO HELP HIV-POSITIVE PEOPLE** — The Channing L. Bete Company has just published "About Living with HIV," a booklet that provides vital information to people who test positive for HIV. Beginning with an explanation of what HIV infection means, the booklet advises the reader to establish a good relationship with a physician, take steps to maintain good health and act to prevent the spread of HIV. It also covers insurance, job and discrimination issues and lists sources of emotional and legal support. "About Living with HIV" is designed for widespread, economical distribution in clinics, counseling centers, personal handouts and literature display racks. This is one of many booklets available from the publisher in the unique word-and-graphic format called scriptography. Booklets can be personalized on front and back covers and quality discounts are available. For a complimentary review copy of "About Living with HIV" and a catalog, write to Margaret K. DeGregorio, Channing L. Bete Co., Inc., Dept. PR, 200 State Road, South Deerfield, Massachusetts 01373 or phone 1-800/628-7773.



# For Relief From Workers Comp Headaches, Take Two Aspirin And Call Us In The Morning.

Announcing a workers compensation program exclusively for IMS member physicians.

Call us about the new Iowa Medical Society Workers Compensation Safety Group Plan.

This new program has a special organization and emphasizes safety in the workplace. It is designed to help you reduce risk factors and gain a competitive advantage.

In addition, the program is underwritten by one of Iowa's oldest and strongest insurance providers, the Farm Bureau Mutual Insurance Company, the company endorsed by the Iowa Medical Society for workers compensation insurance coverage. And state-approved rates authorized for use by Farm Bureau Mutual Insurance will enable program participants to obtain coverage on an attractive and competitive basis.

For coverage information specific to your practice, contact IMS SERVICES, a subsidiary of the Iowa Medical Society, 1001 Grand Avenue, West Des Moines, IA 50265. (515) 223-2816 or (800) 728-5398.

  
**Farm Bureau**  
FAMILY OF FINANCIAL PLANNING SERVICES  
FARM BUREAU MUTUAL  
INSURANCE COMPANY  
WEST DES MOINES, IOWA



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## About Iowa Physicians

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**Dr. Peter Szeibel** has begun practice with **Dr. L. K. Berryhill** and **Dr. Sang Lee** in Fort Dodge. Dr. Szeibel received the M.D. degree from State University of New York Upstate College of Medicine, Syracuse, New York and completed a psychiatry residency at Long Island Jewish Medical Center, Glen Oaks, New York. **Dr. Mike Greiner** has joined the Medical Arts Clinic in Fairfield. Dr. Greiner received the M.D. degree at the U. of I. College of Medicine and served a residency at Family Medical Center in Davenport. **Dr. David Larson** has joined the Fairfield Clinic. Dr. Larson received the M.D. degree from the University of Nebraska College of Medicine, Omaha, Nebraska and completed his residency at Iowa Lutheran Hospital, Des Moines. **Dr. Kevin Massick** has left Winterset Medical Center. **Dr. Mitchell Paul**, formerly of Orthopaedic and Reconstructive Surgery Associates in Burlington has opened a new practice, Orthopaedic and Sports Medicine. **Dr. Patrick Ryal**, Nora Springs, has been named a fellow of the American Academy of Family Physicians. **Dr. Thomas Kent**, professor of pathology at the U. of I. College of Medicine recently was awarded the Distinguished Teacher Award of the Alpha Omega Alpha national honor medical society. The award was presented during the 101st annual meeting of the Association of American Medical Colleges. **Dr. Calvin Atwell**, Muscatine, recently became board certified in surgery and was also named a diplomate of the American Board of Surgery. **Dr. Kathy Grauerholz** has joined Prairie City Medical Center. Dr. Grauerholz received the M.D. degree from the U. of I. College of Medicine and completed her family practice residency at Iowa Lutheran Hospital in Des Moines. **Dr. John Pallanch**, a Sioux City otolaryngologist-head and neck surgeon, has received the Honor Award. The award was presented at the 94th meeting of the American Academy of Otolaryngology-Head and Neck Surgery held in San Diego, California. Dr. Pallanch was recognized for his contributions to the Academy. **Dr. Mark Louviere** was recently

appointed to the position of clinical lecturer by the U. of I. College of Medicine in the Department of Family Practice. Dr. Louviere is chairman of the Pediatric Department at Allen Memorial Hospital in Waterloo. **Dr. Robert Pelegrin** has begun urology practice in Clinton. Dr. Pelegrin received the M.D. degree at the U. of I. College of Medicine and previously practiced in Osage Beach, Missouri. **Dr. Terrance Wood** has joined Iowa Oto-Head & Neck Specialists, P.C. in Fort Dodge. Dr. Wood received the M.D. degree at the University of Missouri School of Medicine, Columbia, Missouri and completed a residency at Indiana University School of Medicine, Indianapolis, Indiana. **Dr. Peter Silberstein** of the Park Clinic in Mason City has been appointed by the U. of I. Hospitals to be a clinical instructor in the Department of Internal Medicine. Dr. Silberstein was appointed to this post in recognition of his contributions to clinical research in cancer patients. **Dr. Garry Cole**, New Hampton and **Dr. John Meyer**, Maquoketa, were named fellows of the American Academy of Family Physicians at the Annual Convention and Scientific Assembly in Dallas, Texas. **Dr. James Paulson**, Grinnell, has been named Iowa Family Doctor of the Year by the Iowa Academy of Family Physicians. Dr. Paulson has practiced in Grinnell for 10 years and will represent Iowa in the national search for the Outstanding Family Physician.

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## Deaths

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**Dr. Edward Sibley**, 80, Sioux City, died October 14. Dr. Sibley received the M.D. degree from Johns Hopkins University School of Medicine, Baltimore, Maryland and completed a residency at Harper Hospital, Detroit, Michigan. He practiced in Sioux City until retirement in 1980. He was a life member of the Iowa Medical Society.

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## A Call for Involvement

*Editor's Note: About 25% of all low-level radioactive wastes produced in the U.S. each year stems from medical uses. This month's column, provided by the American Medical Association, outlines the AMA's plan for physicians to lead the way in providing for safe disposal of these wastes.*

**D**ISPOSAL OF LOW-LEVEL RADIOACTIVE WASTES may seem like a minor concern among medicine's worries. However, universities, medical schools, hospitals, labs and medical practices are among producers of these wastes. Yet, their activities clearly benefit society.

### *Political Problem*

Disposal of radioactive wastes has long been more a political than a public health problem. In the 1960s, 6 licensed commercial facilities received wastes from across the country. After 3 of these facilities closed, opposition developed in the 3 remaining host states.

In response, Congress passed the Low Level Radioactive Wastes Policy Act in 1980. Under this bill, each state would eventually become responsible for disposal of radioactive wastes generated within its boundaries. The act recommended that states participate in regional groupings to improve the cost effectiveness of disposal facilities. It also stated that any regional facility could exclude wastes from outside its region after January 1, 1986.

### *Slow Progress*

By 1985, it was clear states would not meet the 1986 deadline. Congress extended the deadline to January 1, 1993. On that date, the 3 existing commercial sites in Nevada, Washington and South Carolina will be closed to outsiders.

State negotiations have proceeded since 1985. Yet, selecting a disposal site and pre-

paring to operate a facility involve a complicated series of steps. Few states are far along in this process and fewer still are expected to meet the 1993 deadline.

### *Physicians Can Help*

Physicians can play a key role in helping their states develop acceptable disposal facilities for low-level radioactive wastes. Their medical training can provide an informed perspective on the personal and public health risks related to waste disposal. More importantly, they can describe the beneficial uses of procedures that produce radioactive wastes and how these uses will be compromised if disposal sites for the wastes are unavailable.

Consider becoming involved in efforts to establish disposal facilities. Contact representatives of your state's radiation control program or health agency. Arrange to meet with them and offer your support. Encourage these representatives to consider what will be done if a disposal site is not available by January 1, 1993. Stress the need to develop one or more storage sites for low-level wastes as an intermediate measure until a disposal site becomes available.

Every medical society's public health or environmental health committee can become involved by enacting and promoting policy regarding disposal of low-level radioactive wastes. Through lobbying and working with public health authorities, the medical society can influence disposal facility plans.

For further information, contact the AMA's Division of Biomedical Science, 515 North State Street, Chicago, Illinois 60610.

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February 1991

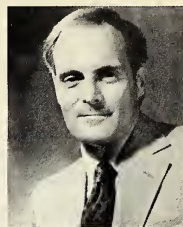
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Iowa Medicine



## President's Privilege

Robert D. Whinery, M.D.



## Rambling

**M**Y TENURE AS IMS PRESIDENT is running short and, at times, I'm tempted to use this page to express my personal feelings on various issues — abortion, patriotism, the Hsiao study, cognitive vs. non-cognitive, Saddam Hussein, etc., but I won't. Instead, here are some disjointed thoughts on medicine in general.

Writing this column each month has been a bit of a challenge. What do you say to a medical society when things are in such a state of flux? I've never been much of a history buff, but to understand medicine's present status you must know the political and economic events of the past 20+ years. Our medical society is composed of doctors of varying ages and hence different historical perspectives. We've seen the profession go from basic house calls to fantastic technological feats — and from prestige to criticism.

I wrote an article for this magazine several months ago. It was a sizzler and dealt with tort reform, lawyers, legislators and hospitals. Now I reread it each month. Sometimes it's humorous, often it's not. Suffice to say that medical liability insurance and tort reform are still major issues for the Iowa Medical Society. Our staff and legislative leaders are constantly ready to work for improvements in that area when the political climate will allow it. It is not a dead issue.

I've been told that one of the next big problems for medicine will be ER physicians

(ER stands for early retirement). It strikes me funny that paraprofessionals want laws that permit them to be doctors. I wonder why we're quitting?

Another comment frequently heard is "The AMA (or IMS) does nothing for me — my specialty society does more." In this day and age, we all have specialty societies of some sort. The leaders of the AMA and IMS represent all aspects of medicine. One unified voice with government and consumer groups is more effective than multiple splinter attempts. You can work through both, you know.

There I go again singing the same song of organized medicine. But, one last plea, please look ahead. Next month is our annual House of Delegates, so make plans now to be there. In recent years we've had some county societies with poor representation, even some with none. Come and participate in the planning and decision-making. Know what's really going on. Belong to the AMA, read AM NEWS and IMS publications, and come to the IMS Annual Meeting. Give the leadership and staff of *your* society your thoughts and feelings.

*Robert D. Whinery, M.D.*

Robert D. Whinery, M.D.  
President

# Advances Increase Safety of Anesthesia

FRANKLIN SCAMMAN, M.D.  
Iowa City, Iowa

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***A combination of recent developments has made anesthesiology much safer for patients.***

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**T**HE CURRENT PRACTICE OF ANESTHESIA exposes the patient to much less risk than just a few years ago. This article highlights factors which have contributed to this increase in safety. The relative contribution of each factor is still being debated.

**Anesthesia Residents** — The quality of our anesthesia residents at the University of Iowa has increased noticeably in the past 10 years. Not too long ago, anesthesiology was looked down upon as a second-rate specialty for those who could not make it elsewhere. As other specialties began to be fully subscribed and the salary structure remained attractive, competition developed for available residency slots and the caliber of our residents surged. University of Iowa residents consistently are above the average of American medical graduates on the national yearly anesthesia examination.

**Drugs** — Over half of the anesthesia drugs in current use have appeared during

the past 20 years. New narcotics have shorter half-lives allowing more accurate dosing near the end of an anesthetic. These newer narcotics have fewer side effects such as histamine release causing bronchospasm or excessive sedation causing long PACU stays. New muscle relaxants have a more predictable recovery and less cardiovascular effects. Our new inhalational anesthetic agents are less soluble, allowing more rapid change in anesthesia depth. In addition, they have less circulatory depression in the debilitated patient.

Newer cardiovascular drugs such as the competitive alpha and beta antagonists allow much finer tuning of the CV system in the presence of coronary artery disease. The most recent intravenous anesthetic agent has a very short half-life, almost like turning a light off and on. In addition, it has a very low rate of nausea and vomiting and has proven extremely valuable in outpatient surgery.

**Educators** — Many residents have stayed on staff to pass on their knowledge, skills and enthusiasm to succeeding generations. Once it was rare that an academic anesthesiologist would have dual degrees or be boarded in another specialty, but such breadth of education is now common. In addition, educational research has improved teaching techniques to further the efficiency of the teaching-learning process. Continuing research in anesthesia principles and practice has expanded the available body of knowledge.

**Equipment and Technology** — Modern technology in the anesthetizing location and

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The author practices with the University of Iowa Hospitals and Clinics and is chief of Anesthesiology Service at the Iowa City VA Medical Center.

throughout the hospital has increased the ability of an anesthetist to detect adverse situations and prevent less-than-optimal outcome. The most important advance has been the universal use of pulse oximetry in the OR and PACU. Numerous studies have shown there are fewer and shorter episodes of hypoxia if oximetry is in use. Just behind pulse oximetry in efficacy of preventing disasters is capnometry. For many years, there was no nearly-foolproof means of detecting an esophageal intubation, other than seeing the endotracheal tube pass through the vocal cords on laryngoscopy. Now, detection of end-tidal CO<sub>2</sub> has gained nearly universal acceptance as the second-best method of ensuring correct placement in the trachea. Non-invasive blood pressure machines have proved more accurate in clinical practice and they are found now in almost all anesthetizing locations. In addition, the anesthesia machine has been re-designed to make it much more difficult for the anesthetist to make a slip or goof, such as delivering a hypoxic gas mixture or mixing 2 different volatile anesthetic agents.

All new machines with ventilators now have at least 2 monitors to detect a disconnect of the breathing circuit. It is now common to be able to measure direct arterial blood pressure and cardiac output during anesthesia, many of the newer monitors having the ability to calculate all the derived hemodynamic parameters with little manual entry of data. Computerized syringe pumps have simplified the calculations necessary for infusion of narcotics, vasodilators, and muscle relaxants. Coming in the near future are computerized devices to servo-control blood pressure.

**Insurance Companies** — Surprisingly, insurance companies have played a great role in recognizing that new technology has made anesthesia safer and have encouraged the utilization of high technology in the OR by reducing risk class and premiums for practitioners stating they will use pulse oximetry and capnometry on every case. In addition, the insurance companies have been most cooperative in providing case-analysis data in the investigation of risk analysis.

**Quality Assurance and Risk Management** — Anesthesiology, as early as 1974, was one of the first medical specialties to

formalize the process of analyzing its practice and determining mechanisms of improving outcome. Today, modern QA programs are identifying problems and bad practices, formulating solutions to these problems, implementing the solutions, and monitoring to see that the problems are resolved. Vital to the process is the unique Closed Claims Study of the American Society of Anesthesiologists (ASA). This ongoing study, gathering data from more than 17 insurance companies throughout the United States, has reviewed in depth more than 2200 completed litigations. The study found that payment was made in more than 80% of the cases where care was found to be substandard. However, payment was made in more than 40% where the care was judged to be appropriate. This study is helping to set "standards of care."

**Standards** — Before the advent of standards for the practice of anesthesia, there were no "yardsticks" by which a physician's practice could be measured. In 1986, the Harvard Hospital Group, a self-insured collection of academic and private hospitals, realized without such a measure it would be very difficult to get meaningful actuarial data on risk management and published their standards. The next year, the ASA embraced a similar but more clinically-oriented set of standards. Several states, observing what seemed to be a good idea, incorporated the standards into law, denying licensure to those not adhering to the standards. Briefly, ASA standards are:

- Qualified anesthesia personnel shall be present in the room throughout the conduct of all general anesthetics, regional anesthetics and monitored anesthesia care.

- During all anesthetics, the patient's oxygenation, ventilation, circulation and temperature shall be continually evaluated. Oxygenation will be evaluated in the inspired gas by an oxygen analyzer and in the blood by quantitative methods such as pulse oximetry. Ventilation will be monitored by standard clinical signs and the monitoring of CO<sub>2</sub> content is encouraged, particularly when an endotracheal tube is in place. When a ventilator is used, monitors giving an audible alarm capable of detecting a disconnection of components shall be em-

(Continued next page)



ployed. Circulation will be monitored continuously by an EKG. In addition, heart rate and blood pressure shall be determined at least every 5 minutes. If the patient is receiving general anesthesia, at least one of palpation of a pulse, auscultation of heart sounds, monitoring of the tracing of an arterial line, ultrasound peripheral pulse monitoring or pulse oximetry will be used. Finally, the means for measuring body temperature must be available. If temperature changes are intended, temperature shall be measured.

There are also standards for anesthesia machine checkout, giving relief during an anesthetic, obstetrical anesthesia, PACU and the ethical practice of anesthesiology.

Interestingly, there is conjecture that the publishing and acceptance of the above standards per se has measurably improved the safety of anesthesia. A very large series from the Harvard Group, divided into pre- and post-standard eras, suggests the absence of any anesthesia-caused OR deaths in over 220,000 anesthetics in the post-standard group is evidence they work. However, as impressive as this safety record is, their conclusion would require another 200,000 anesthetics without a death to reach statistical significance.

## Conclusion

How much safer is anesthesia now than 20 years ago when the major morbidity studies were done? It is a matter of conjecture. A few years ago, the CDC was commissioned to study the topic. They abandoned the study because anesthesia-related events were so rare it would cost over \$20,000 per event and require many years to gather enough data to be valid. If the Harvard experience is valid and if local folklore can be trusted, the risk of anesthesia is now at least 10 times lower than previously determined. Our database at the University of Iowa is not sufficiently large to offer any illumination. Our last anesthesia-caused death was 3 years ago and we have since performed more than 60,000 anesthetics. Great strides in safety have been made by anesthesiology over the past few years.

## References

References are available from the author.

# YOCON®

## YOHIMBINE HCl

**Description:** Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbina-16a-carboxylic acid methyl ester. The alkaloid is found in Rubiaceae and related trees. Also in Rauwolfia Serpentina (L.) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however, no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yocoon® is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

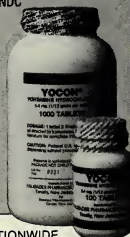
**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral alpha-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.<sup>1,2</sup> Also dizziness, headache, skin flushing reported when used orally.<sup>1,3</sup>

**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.<sup>1,3,4</sup> 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.<sup>3</sup>

**How Supplied:** Oral tablets of Yocoon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-010-10.

- References:**
1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
  2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188, McMillan December Rev. 1/85.
  3. Weekly Urological Clinical letter, 27-2, July 4, 1983.
  4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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# HIV Test Counseling

ROBERT RINALDI, Ph.D.

JOHN HENNING, Ph.D.

Chicago, Illinois

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## *Guidelines for pretest and posttest counseling to accompany HIV testing are discussed.*

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**A**LTHOUGH COUNSELING RELATED TO HIV antibody testing has been widely recommended, medical literature contains few specific guidelines.<sup>1-3</sup> Following is a brief outline of essential elements in conducting HIV antibody blood test counseling.

### **Pretest Procedures**

During the pretest session the physician must provide information about HIV, AIDS and the test, conduct a sex and drug history and provide counseling. The patient should be told about the virus, HIV-related diseases, routes of transmission and ways to reduce AIDS risk. This can be accomplished through videotapes, audiotapes, printed matter, group lecture and one-to-one interaction.<sup>4</sup>

The pretest session must include a patient history of sexual behavior and drug use. The physician should use frank, non-judgmental, open-ended questions and be sure the patient understands the words used.

Discussing sexual behavior is difficult. The patient's sexual orientation is less important than specific sexual practices.

Discussing drug use with patients may also be difficult. However, information on intravenous drug use and needle sharing is essential. A full drug use history including alcohol and marijuana can also be helpful.

Pretest counseling should include discussion of medical, psychological and social implications of the HIV antibody blood test. Specific recommendations for behavior change must be based on the physician's assessment of risk. Finally, the physician can assist the patient in deciding whether or not to be tested.

Essential elements of the pretest counseling session include:

- Ask why the patient wishes to be tested.
- Explain the test determines the presence or absence of antibodies to the virus.
- Discuss the meaning of a positive test result: The individual is infected and assumed contagious but may not have AIDS.
- Discuss the meaning of a negative test result: An individual is not demonstrating infection but is NOT "protected" against the virus.
- Discuss the possibilities of false-positive or indeterminate results.
- Discuss ways to modify risk behavior.
- Discuss the confidentiality of test results in relation to office/clinic procedures and state reporting requirements.
- Discuss benefits of anonymous testing.
- Discuss the stress related to waiting for test results and possible reactions to results (e.g., depression and anxiety).

*(Continued next page)*

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The authors are on the staff of the American Medical Association's Group on Science and Technology.

- Discuss potential negative social consequences of being tested and/or being seropositive (employment, housing, insurance and personal relationship ramifications).

- Obtain consent before voluntary testing is conducted (local statutes pertaining to adults and minors should be consulted. See sidebar article for information about Iowa law on HIV testing).

- Make an appointment for a return visit to give and discuss test results.

### *Posttest Counseling*

Disclosure of the test result is best done at the beginning of the session in a direct manner. After the result is disclosed, the patient should be encouraged to express feelings.

Reporting a positive result can be difficult. If the patient had predicted a positive result during the pretest counseling session, the physician might say, "Well, your prediction was right. Your tests show you have the virus." Although it is important to be straightforward in reporting a positive result, it is equally important to give the seropositive patient hope. Quoting the percentage of seropositive individuals who actually become ill (approximately 7-10% per year) and mentioning the ongoing search for effective treatments and vaccines might prove helpful.

The physician must assess the patient's understanding of the result by asking a question such as "Now that you know you are antibody positive (or negative), what does this mean for you?" A review of the information conveyed in the pretest session should be conducted.

When the result is negative, the patient's understanding of how to prevent future infection must be assessed. When the result is positive, the patient must be advised on how to avoid infecting others.

It is also important to communicate to seropositive individuals they are probably infectious to others by established routes of transmission and there is no way to predict when and if symptoms will develop. Antibody-positive persons should be told:

- Do not donate blood, semen or body organs.

- Employ what are known as "safe sex practices."

- Do not share personal hygiene items (e.g., razors, toothbrushes).

- Inform physicians and dentists of serologic status.

- Encourage sexual partners and needle contacts to seek evaluation and serologic testing.

The physician must be sensitive to the psychological reactions possible when the test result is given. For seronegative patients, a reaction of surprise and relief may occur, followed by an overall reduction of anxiety. Seropositive individuals may react with disbelief, anger, fear, guilt or self-recrimination. Clinical depression often occurs among those testing positive.<sup>5,6</sup> In some, the depression may lead to suicidal thought or attempts.<sup>7</sup>

Seropositive patients sometimes require repeated sessions, supportive services and monitoring. A psychiatric referral should be made for patients who require assistance in adapting to current conditions or managing depression or anxiety beyond what the primary care physician can offer. A patient may also benefit from counseling hotlines, HIV support groups and/or psychotherapy. A schedule to monitor medical status must be determined as well.

The posttest session also should include an assessment of the patient's commitment to altering high-risk behaviors. The physician must work with the patient to promote behavior change by reiterating routes of transmission, discussing risks and highlighting methods of risk reduction.

In summary, essential elements of the posttest counseling session include:

- Provide the test result.

- Allow the patient to express feelings and reactions.

- Assess the patient's understanding of the test results.

- Review routes of transmission.

- Assess the patient's psychological condition.

- Recommend psychiatric follow-up when appropriate.

- Assess risk behavior and commitment to risk reduction strategies.

- Recommend medical follow-up.

- Recommend additional support services as needed.

## Iowa AIDS Laws

### *Pre-test Patient Education/Consent*

Prior to withdrawing blood for an HIV test, the person being tested must be given the following information:

- An explanation of the test, including the test's purposes, potential uses, limitations and the meaning of both positive and negative results.
- An explanation of the nature of AIDS and ARC, including the relationship between the test results and the diseases.
- An explanation of the procedures to be followed, including the fact the test is entirely voluntary and can be performed anonymously if requested.
- Information concerning behavioral patterns known to expose a person to the possibility of contracting AIDS and methods for minimizing the risk.
- The person being tested must be given written notice that this information must be provided prior to testing.

These educational requirements do not apply to:

- Testing of donated blood or body parts or to semen donated prior to July 1, 1988.
- Testing in medical emergencies when the subject of the test is unable to grant or withhold consent and the test results are needed for medical diagnostic purposes to provide appropriate emergency care or treatment.

### *Posttest Counseling, Partner Notification*

- When a patient is informed of the test results, counseling relating to the emotional and physical health effects of HIV infection should be initiated with special emphasis on how to prevent spread of the virus, how to decrease the risk of infection and where additional counseling can be obtained.
- A patient who tests positive for HIV should be encouraged to refer sexual partners or persons who have shared intravenous equipment for confidential counseling. The patient may choose to participate in the Iowa Department of Public Health (IDPH)

voluntary partner notification program or to personally notify partners.

- A physician treating a patient who tests HIV positive may warn a sexual partner or drug partner of that patient if 2 conditions are met: 1) the physician believes continuing contact poses an imminent danger of HIV transmission and 2) if the physician believes the infected patient will not warn the partner in spite of the physician's strong encouragement to do so. *Specific procedures must be followed by the physician in notifying a third party.* (Call the Iowa Medical Society or IDPH for more information.)

### *Confidentiality*

- The identity of anyone tested for HIV, HIV test results, the identity of persons diagnosed with AIDS, the names of sexual partners or drug contacts or related information must be kept strictly confidential by a physician or anyone who has access to that information. Identifying information may only be disclosed in limited circumstances.

### *Minors Seeking Testing*

- Minors may seek treatment or testing for AIDS and other sexually transmitted diseases on a confidential basis. However, because of the potential seriousness of positive HIV status, a minor who seeks treatment without a guardian must be informed prior to testing that the test facility is required to inform the legal guardian if the HIV test is positive.
- Facilities which are precluded by federal statute or regulation or CDC guidelines from informing the legal guardian are exempt from the notification requirement.
- All facilities where minors are tested are required to make assistance with notification available to minors and their legal guardians, emphasizing the need for family support in dealing with test results.

For more information, contact the legislative staff at the Iowa Medical Society, 515/223-1401 or 800/747-3070. The IMS also has a booklet available entitled *What is HIV Testing?*



# Where there's smoke...there may be bronchitis

"Recent research has delineated early, more subtle changes in lung and immune functions. These alterations directly predispose smokers to respiratory tract infection."

Am Fam Phys 1987;36:133-140

#### Brief Summary

Consult the package literature for prescribing information. Indication: Lower respiratory infections, including pneumonia, caused by *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Streptococcus pyogenes* (group A  $\beta$ -hemolytic streptococci).

Contraindication: Known allergy to cephalosporins.

Warnings: CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients. Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

#### Precautions:

- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of non-susceptible organisms.

- Positive direct Coombs' tests have been reported during treatment with cephalosporins.

- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.

- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

#### Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:

- Hypersensitivity reactions have been reported in about 1.5% of patients and include morbilliform eruptions (1 in 100), pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions have been reported with the use of Ceclor. These are characterized by findings of erythema multiforme, rashes, and other skin manifestations accompanied by arthritis/arthralgia, with or without fever, and differ from classic serum sickness in that there is infrequently associated lymphadenopathy and proteinuria, no circulating immune complexes, and no evidence to date of sequelae of the reaction. While further investigation is ongoing, serum-sickness-like reactions appear to be due to hypersensitivity and more often occur during or following a second (or subsequent) course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults with an overall occurrence ranging from 1 in 200 (0.5%) in one focused trial to 2 in 8,345 (0.024%) in overall clinical trials (with an incidence in children in clinical trials of 0.055% to 1 in 38,000 (0.003%) in spontaneous event reports. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy; occasionally these reactions have resulted in hospitalization, usually of short duration (median hospitalization = two to three days, based on postmarketing surveillance studies). In those requiring hospitalization, the symptoms have ranged from mild to severe at the time of admission with more of the severe reactions occurring in children. Antihistamines and glucocorticoids appear to enhance resolution of the signs and symptoms. No serious sequelae have been reported.

- Stevens-Johnson syndrome, toxic epidermal necrolysis,

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and anaphylaxis have been reported rarely. Anaphylaxis may be more common in patients with a history of penicillin allergy.

- Gastrointestinal (mostly diarrhea): 2.5%.

- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.

- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.

- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypernatremia, dizziness, and somnolence have been reported.

- Other: ecchymophilia, 2%; genital pruritus or vaginitis, less than 1% and, rarely, thrombocytopenia and reversible interstitial nephritis.

Abnormalities in laboratory results of uncertain etiology:

- Slight elevations in hepatic enzymes.

- Transient lymphocytosis, leukopenia, and, rarely, hemolytic anemia and reversible neutropenia.

- Rare reports of increased prothrombin time with or without clinical bleeding in patients receiving Ceclor and Coumadin concomitantly.

- Abnormal urinalysis; elevations in BUN or serum creatinine.

- Positive direct Coombs' test.

- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinistest<sup>®</sup> tablets but not with Tes-Tape<sup>®</sup> glucose enzymatic test strip. Lilly, PA 8791 AMP

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James Black, M.D.



# Goals and Concerns Of Anesthesiologists

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*This month's author, a Marshalltown anesthesiologist and president of the Iowa Society of Anesthesiologists (ISA), says Medicare reimbursement rates and professional liability continue to be major concerns of his organization.*

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**What is the picture with regard to the supply of anesthesiologists?**

The number of practicing anesthesiologists in Iowa has remained stable at 150-190 for 10 years. As this generation retires, I believe there will be fewer anesthesiologists willing to practice in rural areas.

I think physicians in all fields will avoid rural areas for 2 major reasons:

- No one wants to practice alone or in a small partnership because the call schedule and demands of the public are too strenuous. The fear of lawsuits frequently causes us to personally examine and treat patients with problems which previously could have been handled over the phone.

- The "urban-rural" differential in incomes for all physicians will continue to drive young physicians to urban areas. Most graduating residents today have enormous educational debt and won't locate in a rural area when they can earn 3-4 times more in the cities.

In anesthesiology, there is a significant difference within the state in Medicare reimbursement between urban and rural areas, and

there is a horrendous difference among the 50 states. To make matters worse, urban practices usually have 20-28% Medicare patients while rural practices in Iowa frequently have 40-60% Medicare patients. This means rural practices have a higher percentage of patients for whom the physicians receive lower reimbursement.

**What recent technological and scientific advances have affected your specialty?**

The development of pulse oximeters and capnography monitors in the late 1980s has greatly changed many of our practice habits and improved quality of care. These devices allow us to dynamically monitor a patient's respiratory status and make treatment decisions sooner and more effectively.

In the area of pharmacology, the 1980s brought a new inhalation agent, shorter acting narcotics, shorter acting muscle relaxants, a new induction agent, a variety of cardiac agents, safer gas delivery systems, etc. These have allowed us to develop anesthesia regimes more specifically tailored to individual patients, the types of surgery being performed and the expected duration of the procedures.

**What socioeconomic developments have influenced anesthesiology?**

In recent decades, Americans have demanded the government provide more and more services. In particular, 'free' health care has now become a 'right' in the minds of a significant portion of the population. This has greatly influenced all fields of medicine. I be-

*(Continued next page)*

lieve all doctors have changed modes of practice, attitudes and expectations because of the resulting governmental meddling.

### **What are the concerns and goals of the Iowa Society of Anesthesiologists?**

Currently, the Iowa Society of Anesthesiologists (ISA) and the American Society of Anesthesiologists (ASA) are especially concerned with several problems:

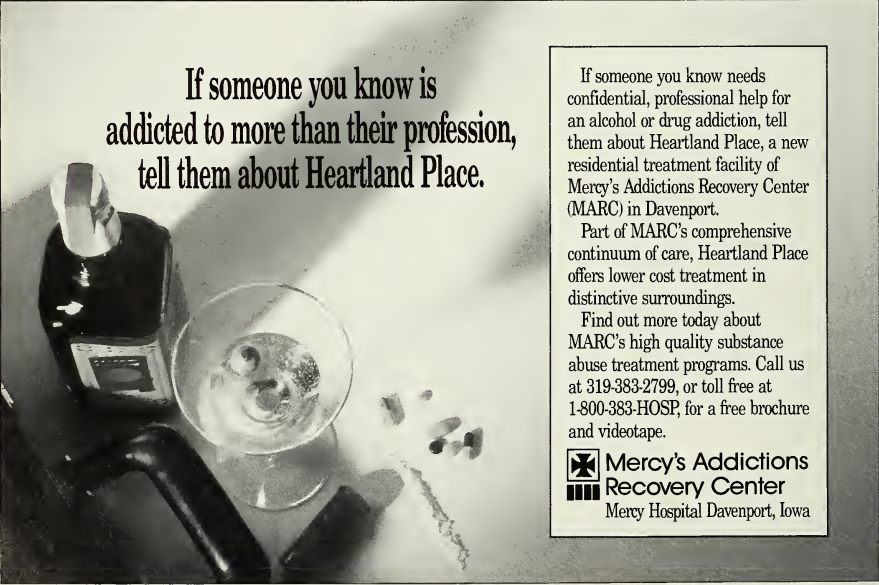
- Maintaining standards of care and quality of care. This involves everything from setting monitoring standards to requiring continuing education. The ASA is devising a method of evaluating and certifying "continuing competence," which board certification and continuing education requirements have failed to do.

- In the area of quality of care, the ISA is very concerned with the push of allied health care workers such as CRNAs to attain by legislation what they have not achieved by education — the right to practice medicine. Allow-

ing PAs, ARNPs and pharmacists to practice medicine by prescribing will gradually create a second tier of lower quality care which I cannot believe is desirable.

- The liability insurance problem continues to be a thorn in our side. Much has been achieved in the past 10 years to make the practice of anesthesiology safer and to some degree this has been reflected in lowering of our risk class. However, the cost of liability insurance is still very high and will continue to escalate until attitudes change or the government steps in. (No one really expects the government to be able to handle this problem any better than it has handled other problems.)

- As I already mentioned, the Medicare reimbursement rate continues to be our biggest headache. It is very possible many of our younger anesthesiologists may be forced to leave Iowa in the next 5-10 years because of the continuing decline in payments for treating the Medicare patients who comprise such a large part of Iowa's population.



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# Pain Syndromes: Case Studies

DANA SIMON, M.D.

Des Moines, Iowa

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***Primordial pain relief and restoration of normal function are the goals for patients suffering from RSD or SMP. The author is president-elect of the Iowa Society of Anesthesiologists.***

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**A**NESTHESIOLOGISTS ARE FREQUENTLY ASKED to treat patients suffering with acute and chronic pain syndromes. Reflex sympathetic dystrophy (RSD) is one common underpublicized syndrome in which clinical presentations may vary considerably, and for which newer theories of pathophysiology are proposed.<sup>1-3</sup> This clinical review of 3 cases illustrates the diversity of clinical presentations and therapeutic outcomes.

Reflex sympathetic dystrophy (RSD) is a term devised by Evans in 1947.<sup>4</sup> The incidence of RSD may be equal in adult males and females. In preadolescents, there is a predominance in females. In 1990, the International Association for the Study of Pain formulated

a description of RSD based upon updated knowledge, scientific and clinical data. The primary requisites for diagnosis of RSD are pain (superficial or deep, continuous, non-dermatomal and burning) along with signs of sympathetic hyperactivity. In addition to sensory aberrations, abnormalities in the motor system and "trophic" tissue changes may occur. It is not necessary that all components are present to make the diagnosis. The term RSD does not necessarily denote the mechanism or causation of the syndrome.

Classic descriptions of RSD divide the syndrome into 3 stages.<sup>5</sup> The acute stage (0-6 months) is manifested by the presence of spongy edema, hyperthermia, hyperhidrosis and increased nail and hair growth. The dystrophic stage (6-12 months) is characterized by cool, gray cyanotic skin, brawny edema and decreased blood flow, skin temperature and hair and nail growth. The atrophic stage includes muscle wasting, contractures, pericapsular fibrosis and classic "Sudeck's" changes (spotty diffuse osteoporotic changes on X-ray). Hyperesthesia, dysesthesia and hyperpathia may occur in any of these stages (Table 1).

Syndromes similar to RSD have been described. Patients with sympathetically-maintained pain (SMP) have allodynia or hyperesthesia but no other symptoms of RSD (Table 1). This painful state has been shown to be dependent upon alpha-adrenergic drive, and is independent of cutaneous blood flow changes.<sup>1, 2, 6</sup>

Dr. Simon is a pain management specialist and practices anesthesiology in Des Moines.

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR MARCH 1991



TABLE 1\*  
DEFINITION OF TERMS

<i>Allodynia</i> —pain due to a stimulus that does not normally provoke pain
<i>Dysesthesia</i> —an unpleasant abnormal sensation, whether spontaneous or evoked
<i>Hyperesthesia</i> —increased sensitivity to stimulation, excluding special senses
<i>Hyperalgesia</i> —an increased response to a stimulus that is normally painful
<i>Hyperpathia</i> —a painful syndrome, characterized by increased reaction to a stimulus, especially a repetitive stimulus, as well as an increased threshold.

\* IASP Subcommittee on Taxonomy 1986 Classification of chronic pain—descriptions of chronic pain syndromes and definitions of pain terms. Merskey H (ed) *Pain* 3:53-5226.

These changes develop as a consequence of trauma, usually affecting the limbs, with or without obvious nerve lesion. However, RSD has been reported in the face, isolated digits, patella, genitalia among other locations. RSD may also develop after visceral or central nervous system disease and infrequently remains idiopathic in nature. Carron and Weller noted the following incidence of RSD etiologies in their pain clinic populations:<sup>7</sup> previous fracture — 57%, blunt trauma — 26% and post-surgical — 17%.

In RSD and SMP, pathologic self-sustaining circuits of neural activity may occur between the central nervous system (CNS) and peripheral somatic and sympathetic nerves, accompanied by abnormal activation of peripheral nociceptors and mechanoreceptors. Heightened neural activity in wider receptive fields occurs centrally.<sup>1</sup> Pathophysiologic pain appears to reflect a disease of membrane electrical and excitability regulation.<sup>8</sup> If left untreated or treated late, progressive pain, dysfunction and deterioration may occur. The existence of CNS pathology is sufficient to explain contralateral "mirror pain" development.

### Case Study 1

A 30-year-old Caucasian female pharmacist complained of left-sided neck and arm pain for 5 years. She was status post bilateral first rib resections 7 years before for thoracic outlet

syndrome. The pain was described as severe burning, aching and diffuse in nature.

Blood chemistries, electromyogram and somato-sensory evoked potentials and MRI of the cervical spine were normal. Physical examination revealed dysesthesia and hyperesthesia to soft touch in the left arm and forearm. The left hand grip was markedly weaker than the right. Pain prevented the patient from performing her work on a regular basis.

A trial of cervico-thoracic (stellate) ganglion sympathetic blocks was performed initially in attempt to reduce pain levels and restore function. A reduction by 50% of previous pain levels was achieved but lasted only a few days. On this basis, an intravenous sympatholytic agent (guanethidine) was injected into the left arm following previous Esmarch wrap limb exsanguination and tourniquet inflation (intravenous Bier block technique).

Intravenous guanethidine provided the patient consistent pain reduction of 80-90% for one month. Interim trial of nifedipine 10 mg p.o. t.i.d. brought no improvement. Following repeated temporary successes with intravenous guanethidine, the patient underwent selective T2 ganglion thoracic sympathectomy, transaxillary neurolysis and anterior scalenectomy.

Postoperatively, the patient's left hand was warmer and her left hand grip strength increased from 9 kg pre-operatively to 23 kg. The pain was eliminated and had not returned at 20 months follow-up.

### Case Study 2

A 47-year-old Caucasian female suffered fracture of the head of the radius (Colle's fracture) 8 weeks earlier. A cast was placed to facilitate healing. The patient complained of diffuse burning pain. Examination of the semi-clenched hand revealed hyperesthesia to soft touch over the entire dorsal aspect. The patient was unable to flex or extend the wrist or move her fingers without severe pain. The left hand was warmer than the right with increased radial arterial pulsation pressure. Fusiform swelling of the fingers of the left hand was evident. Dysesthesia was notably absent (Figure 1).

Trials of stellate ganglion blockade and intravenous guanethidine were unsuccessful. In this case, only aggressive and persistent physical therapies brought significant functional





Figure 1. Patient with acute RSD of left hand. Note edema, erythema and fusiform swelling of fingers.

improvement with decreasing pain over the ensuing months.

### Case Study 3

A 45-year-old Caucasian male complained of post-operative diffuse burning pain in the plantar and dorsal aspects of his left foot and lower leg. Similar less severe complaints existed in the right lower extremity. He was 5 weeks status post anterior interbody and posterolateral fusions with internal stabilization of the lumbosacral spine. Physical examination revealed a moderately obese patient in mild acute distress. Vital signs were stable, and the patient was afebrile. His gait was antalgic in the left lower extremity. Hyperesthesia and dysesthesia were evident on the plantar and dorsal surfaces of the left foot and less prominently in the right foot. The temperature of the left foot was 27.6 degrees and the right was 29 degrees centigrade. The left foot was diffusely swollen and erythematous (Figure 2).

The diagnosis was RSD of the left and possibly the right foot. Three lumbar paravertebral sympathetic blocks were performed sequentially with excellent persistent pain relief and decreased swelling. The patient's ability to bear weight, activity level and quality of life were restored. The patient continues with oral nifedipine 10 mg p.o. t.i.d.

### Discussion

Case 1 illustrates sympathetically maintained pain. The success of stellate ganglion sympathetic blocks in pain relief lends greater confidence in the diagnosis of RSD or SMP. By virtue of its high affinity for noradrenergic nerve endings and displacement of noradrenaline from granular storage sites, intravenous guanethidine causes functional depletion and decreased release of noradrenaline, a major chemical mediator of RSD and SMP. Intermittent intravenous chemical sympathectomy may provide longer-term pain relief, allowing successful rehabilitation. Whether the patient would permanently benefit from the surgical procedure was a calculated risk. Only temporary, if any, benefits may occur following surgical sympathectomy, despite good results achieved with previous local anesthetic induced sympathectomy.<sup>9</sup> Possible reasons for this are re-growth of sympathetic fibers, residual uninterrupted sympathetic transmission via spinal nerves, or diffusion, absorption and distribution of local anesthetic is more effective than surgical interruption.<sup>10</sup>

The patient in Case 2 illustrates a classic presentation of RSD that is a failure to sym-

(Continued next page)



Figure 2. Patient with acute post-operative RSD in left foot. Symptoms of RSD were present in right foot also but no signs were present.

pathetic blockade. This failure does not refute the presence of RSD. The usual expectation is that early, sympathetic blockade will provide excellent analgesia and permit normal restoration of structure and function. Sympathetic blockade is thought to interrupt pathologic afferent and efferent volleys of neural messages between peripheral nerves and the central nervous system. It also counteracts height-

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*'Reflex sympathetic dystrophy (RSD) is one common underpublicized syndrome in which clinical presentations may vary considerably, and for which newer theories of pathophysiology are proposed.'*

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ened sensitivity of peripheral neural receptor organs or of traumatized nerve endings to chemical, physical, emotional or environmental stimuli. This case highlights the importance of multi-modality therapy, in which only physical therapies were of primary benefit.

Post-operative, post-traumatic onset of RSD is illustrated in Case 3. Sympathetic nerve blocks performed early in the course of RSD provided prompt overwhelming reversal of severe pain and dysfunction. In this patient, RSD was evident in the left lower extremity and equivocally so in the right. Hyperthermia of the left foot was notably absent in this otherwise classic acute case of RSD. Up to 25% of patients with RSD develop asymptomatic bony and soft tissue changes in the contralateral extremity.<sup>11</sup> Alpha-adrenergic blockers such as prazosin, calcium-channel blockers including nifedipine, and steroids among a host of other medications and procedures have met with variable anecdotal success in retrospective studies primarily. In the pediatric population, non-invasive therapies including application of transcutaneous nerve stimulation over vascular channels have been shown to provide favorable results and should be considered.<sup>12</sup> Psychological evaluation and techniques including thermal biofeedback and distraction therapies have also proven effective in some patients.<sup>13</sup>

Even if the diagnosis of RSD is questionable, objective baseline studies and laboratory tests are required. The 3-phase bone scan, bone density determination, newer techniques of measurement of peripheral blood flow, sensory and motor testing (i.e., electromyography, nerve conduction velocities), sudomotor status (quantitative sudomotor axonal reflex test-Q-SART), temperature measurement, thermography and objective measures of muscle strength and joint mobility are among testing options. Clinical evaluation coupled with such testing may help corroborate or differentiate RSD from other diseases or pain syndromes.

### Summary

RSD is a complex syndrome in which large-scale prospective research is needed to provide additional answers regarding variations in presentation and therapeutic outcomes. Only with the early administration of sympathetic blocks in addition to adjunctive therapies will pain relief and return to normal function be most assured.

### References

References noted in this article are available either from the author or the editors of *IOWA MEDICINE*.

### Physician's Recognition Award

During February, all Iowa physicians who do not have valid certificates for the AMA Physician's Recognition Award were mailed an application form. The form was sent as a service to physicians who are interested in receiving recognition of their continuing medical education activities.

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# Laparoscopic Cholecystectomy

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Des Moines, Iowa

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***Laparoscopic cholecystectomy will eventually replace conventional open cholecystectomy for patients with chronic cholecystitis, say these authors.***

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**T**HERE WERE 42 FEMALES AND 8 MALES in our study ranging from age 20 to over 80. There were 4 complications during the course of the procedure which subsequently required conversion to open laparotomy. There were no serious postoperative complications.

Prior to the procedure, patients are given general endotracheal anesthesia while in the supine position. The stomach and urinary bladder are intubated and the patient is placed in a head down position. A needle is placed into the umbilicus and the abdomen distended with CO<sub>2</sub>. A sleeve with a trocar is then inserted into the umbilical site. An endoscopic camera replaces the trocar and complete inspection of the abdominal cavity is done.

Under direct vision using the TV monitors, 5 cm sleeves with trocars are inserted, one above the right iliac crest and another in the mid clavicular line just below the costal

margin. Long alligator jaw forceps are inserted through both of these sleeves for purposes of exposing and retracting the gallbladder. The fourth sleeve with a trocar inserted is passed into the abdominal cavity just to the right of the midline and dissection of the cystic artery and duct is accomplished through this sleeve. These structures are doubly clipped using an automatic clip applicator and then divided with a micro-scissors.

A Yag laser fiber tip or electrocautery is then used to remove the gallbladder from its liver bed. Under direct visualization the gallbladder is delivered through the umbilical incision completing the cholecystectomy. Once hemostasis is assured and the abdominal cavity irrigated with antibiotic saline solution, all sleeves are removed and the CO<sub>2</sub> allowed to escape. The small incisions are then closed with subcutaneous Vicryl suture.

## Results

The procedure was carried out successfully regardless of the number and size of gallstones.

The presence of acute cholecystitis, common duct stones, uncontrollable hemorrhage from the cystic artery, and an impacted cystic stone in the cystic duct that prevented safe ligation required conversion of 4 cases to open surgery. All of these patients required longer hospitalization and recovery. The remaining 46 patients were discharged from the hospital 24 to 48 hours after surgery.

On review of the analgesic needs for these patients postoperatively, it was noted that 19 patients required 2-5 injected doses while 20 patients requested between 2-5 oral pain medication. The 4 patients converted to conven-

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The authors are surgeons practicing in Des Moines.

(Continued next page)



tional open surgery required more than 10 doses of pain medication. This difference in data illustrates the reduced need of analgesic medication by the laparoscopic cholecystectomized patients.

Twelve patients complained of postoperative nausea but all patients were taking a regular diet the morning after surgery. Some patients complained of a bloating sensation which was of mild intensity and short duration. An occasional complaint of mild shoulder pain was reported.

There have been no reported wound infections or intra-abdominal abscess in any patients. There were some instances of mild postoperative temperature elevation which was thought to be secondary to atelectasis. No serious pulmonary or urinary tract complications occurred in any patient. No patient required re-exploration for any reason and to date there has been no reported instance of retained biliary tract stones.

The operating time required for laparoscopic cholecystectomy averaged between 60 and 100 minutes. This is slightly longer when compared to our group's average time of between 30 and 60 minutes required to perform conventional open cholecystectomy. There was little difference when we divided the 50 cases into 3 groups according to when they were done in the series to see if operating room time was a factor of the learning curve. With more experience we believe the operating time for the average elected case of chronic cholecystitis with stones will be comparable regardless of the method used.

### Summary

The results of our study indicate the laparoscopic cholecystectomy patient has less morbidity, less postop pain, less scarring, a shorter hospital stay and a quicker return to normal activity compared to patients who have conventional open cholecystectomy.



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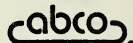
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# Experience with Ciprofloxacin

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istered, ciprofloxacin exhibits therapeutically achievable Minimal Inhibitory Concentrations (MICs) against methicillin-resistant *Staphylococcus aureus* and is the most potent oral antimicrobial available for use against this pathogen.<sup>4</sup> Therefore, ciprofloxacin is regarded as an excellent oral alternative to injectable antimicrobials.

Most of the literature reports double-blind, controlled trials intended for submission to the FDA for marketing approval. However, these studies contain extremely restrictive inclusion and exclusion criteria and may or may not be related to how the product performs in the day-to-day practice of medicine. This report contains data from an open clinical multicenter study performed in Iowa.

## Patients and Methods

Each physician investigator categorized all patients' infections as either lower respiratory tract, soft tissue, skin and skin structure or other. Six investigators entered 65 patients into the study. All patients received ciprofloxacin alone as antimicrobial therapy.

Patients in the study were male and female inpatients or outpatients over 18 years of age who exhibited clinical evidence of lower respiratory tract infection, skin and skin structure infection or soft tissue infection. Excluded were females who were pregnant, nursing or not practicing contraception; patients with allergy to quinolone antimicrobials; patients with severely impaired renal, hepatic or immunologic function; and patients requiring other concomitant antimicrobial therapy.

## Bacteriology

Specimens were collected, when available, from sites of suspected infection prior to

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***The authors report results of a multicenter study of 65 patients treated with ciprofloxacin. Twenty infections were microbiologically proven; eradication of the pathogen was achieved in 80%.***

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CIPROFLOXACIN (CIPRO<sup>®</sup>), APPROVED IN 1987, is an antimicrobial which demonstrates high activity in vitro against gram-negative and gram-positive aerobic pathogens.<sup>1,2</sup> It has excellent in vitro activity against *Enterobacteriaceae* species, *Pseudomonas aeruginosa*, *Haemophilus* and *Neisseria* species.<sup>3</sup> Orally admin-

Dr. Kresnicka is assistant chief of the family practice section at Mercy Hospital in Cedar Rapids. Drs. Lowry, Holzworth, Moussalli, Whalen and White are family practice physicians.

administration of ciprofloxacin and at the end of ciprofloxacin therapy if culturable material was available. Sensitivity analysis was performed.

## Results

The statistics generated were descriptive in nature. All patients were included in the analysis of clinical efficacy; only those patients who had a positive culture with an identified organism were included in the evaluation of bacteriologic efficacy.

A total of 65 patients (34 men, 30 women, 1 not reported) whose mean age was 47.1 years received 1000 to 1500 mg of ciprofloxacin per day (mean dosage 1007 mg per day) for up to 16 days (mean duration, 9.7 days).

For the total patient population the majority of infections were classified as skin and skin structure (48%), followed by soft tissue (30.7%), lower respiratory tract (13.5%), urinary tract (3.9%) and other (3.9%). Of note, the majority of patients treated, 98.4%, were outpatients; hospitalized patients accounted for only 1.6% treated.

Physicians were asked to rate the final clinical outcome of the infection by indicating cure, improvement or failure. Final clinical outcome of therapy with ciprofloxacin for each diagnostic category is summarized in Table 1. Clinical cure was achieved in 84.6%, improvement in 11.5% of cases. Only 2 patients (3.9%) had outcomes considered clinical failures by the treating physician.

Positive cultures were obtained in 26 patients initially. Of these, in 20 cases the bacteria cultured and the outcome of therapy was specified. Negative cultures and cultures indicating normal flora were not evaluable. Of the evaluable patients, bacteriologic cure equaled 80%, while improvement comprised 20%. No bacteriologic failures were reported. Interestingly, bacteriologic outcome was equal to or better than clinical outcome.

For the microbiologically proven infections, the majority of infections were classified as skin and skin structure (40%), followed by lower respiratory tract (20%), soft tissue (20%), urinary tract (15%) and other (5%). Though urinary tract infection was not a category on the CEF, it was statistically separated for discussion and analysis. The 7 reported pathogens and their bacteriologic outcome are summarized in Table 2.

TABLE 1  
FINAL CLINICAL OUTCOME CLASSIFIED  
BY LOCATION OF INFECTION\*

	% of total (No. of pts.)			
	Cure	Improv	Failure	Cure & Improv
Lower respiratory tract	71.4% (5)	28.6% (2)	0% (0)	100%
Soft tissue	75% (12)	18.7% (3)	6.2% (1)	93.7%
Skin/skin structure	92% (23)	4% (1)	4% (1)	96%
Urinary tract	100% (2)	0% (0)	0% (0)	100%
Other	100% (2)	0% (0)	0% (0)	100%
Total	84.6%	11.5%	3.9%	96.1%

\*Data unavailable for 13 patients.

TABLE 2  
SEVEN PATHOGENS IDENTIFIED IN 20  
EVALUABLE CULTURES AND BACTERIOLOGIC OUTCOME

Type of Organism	Outcome		
	Cure	Imp	Fail
<i>Staphylococcus aureus</i>	8	2	0
<i>E. coli</i>	3	0	0
<i>Staphylococcus species</i>	0	2	0
<i>Haemophilus influenzae</i>	2	0	0
<i>Streptococcus pneumoniae</i>	1	0	0
<i>Klebsiella ozaenae</i>	1	0	0
<i>Pseudomonas species</i>	0	1	0

## Adverse Effects

All 65 patients treated with ciprofloxacin were included in the evaluation of tolerance and adverse effects related to therapy. Two adverse effects were observed; one case each of a yeast infection and diarrhea. Only the yeast infection was considered definitely drug related. Ciprofloxacin therapy was maintained for both patients. No headaches or rashes were reported.

## Discussion

Ciprofloxacin is a member of a relatively new class of antimicrobials, the fluoroquinolones, which has emerged as a powerful new resource to treat a broad spectrum of infections. Analysis of this multicenter study indicates there is a good correspondence between the in vitro activity of ciprofloxacin and the clinical efficacy of treatment with cipro-

(Continued next page)

floxacin. Clinical cure was observed in 84.6% of all infections. Cure plus improvement equaled 96.1% of all cases. In addition, bacteriologic efficacy (cure plus improvement) equaled 100%.

The safety of ciprofloxacin was assessed for all patients. Overall, therapy with ciprofloxacin was extremely well tolerated. Adverse experiences were infrequent and generally mild. Treatment with ciprofloxacin was not discontinued for any patient because of adverse experiences.

Furthermore, physicians reported 12 classifications of medications administered concomitantly with ciprofloxacin. Diuretics, cardiotonics, potassium compounds and antihypertensives headed the list. Adverse reactions were minimal. No patients were reported to have had an allergic reaction to ciprofloxacin, nor were any incidents of adverse drug interactions reported.

## Conclusion

The isolation of etiologic bacteria is difficult, especially in infections of the lower respiratory tract and closed wound infections. Clinical results reported here include cases with and without obtained culture and sensitivity results. This study confirms ciprofloxacin was as effective in a day-to-day clinical setting as in smaller, more restrictive trials used for FDA approval of the product.

The present clinical experience has shown a dosage of 1000 to 1500 mg of ciprofloxacin therapy per day was effective in a broad spectrum of infections including *E. coli*, *Staphylococcus aureus*, *Haemophilus influenzae*, and *Streptococcus* species including *Streptococcus pneumoniae*.

Furthermore, the safety of ciprofloxacin was excellent. Adverse reactions were generally mild, gastrointestinal in nature and infrequent. It appears ciprofloxacin offers ease of administration as well as high efficacy and safety in treatment of a wide variety of infections that might well have previously required parenteral therapy and/or hospitalization.

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4. Data on file, Miles Inc. Pharmaceutical Division.

## Manuscript Information for Authors

Papers submitted must be double spaced; triple spaced between paragraphs on 8½ x 11 pages. A title page and a short abstract summarizing the article should be included. Due to space constraints, brief papers (ideal length is 5 double spaced typewritten pages) have a better chance of timely publication. If possible, 2 copies should be submitted.

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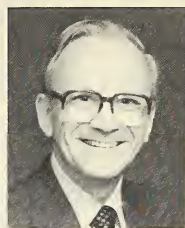
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## The Editor Comments

Marion E. Alberts, M.D.



# Keep the Doors Open

*When one door is shut, another opens.*

—Cervantes (1547-1616)

Don Quixote, bk i, ch 21

**I**N LIFE THERE ARE NUMEROUS DOORS that may be open to us. In a more limited way there are doors open to us as we practice medicine. We must recognize the open doors and strive to keep them open.

One open door is the opportunity to serve our patients. The ill and injured, bodily or in spirit, come to us for care and understanding. The availability to render service is a responsibility we accept along with the title "physician." Years of study and personal commitment have prepared us to accept the responsibilities expected of us. Let not avarice overshadow all that we set out to do. Keep the door open to our patients in their time of need. The rewards reaped by compassionate caring for the needs of our patients exceed material gains.

Another door which we as a profession must keep open is the door of opportunity to improve our skills. The advances in medicine are so striking and enormous it behooves each of us to strive constantly to keep up with all that is exciting and new. We must learn of new techniques, drugs and principles of health care on a continuing basis. To become so engrossed in personal pleasures at the expense of on-going study of medicine is not only folly but closes a door to great opportunities. True, it is oftentimes difficult to leave the practice for a week of review courses or post-graduate seminars, but the results will be refreshing and rewarding.

One door that we busy physicians often leave partially closed is the door to family

life. I, for one, regret the time lost forever which I should have spent with our children. Keeping the doors afore-mentioned open often precludes the proper concern for the door to our family life. There must be a balance between our professional and personal life. In some instances, as with the solo practitioner, the professional life becomes most demanding. We must realize that we cannot have all of one and not the other to live a complete life. The children grow up so rapidly. Do not miss the joys of observing and being a part of the growth of your children and grandchildren.

One more door to consider is the one into your personal life. During my busiest years of practice, my bookkeeper/secretary often admonished me to "slow down and smell the roses." There is more meaning to that than just smelling roses. Our lives must be enriched by values other than the love of practicing medicine. We all know of colleagues who live, breathe and sleep medicine. Such empty lives they lead when there are no escapes from their profession. Engage in sports, gardening, visiting friends (and not talking "shop"), weekend trips, reading non-professional literature or hiking through the woods to enrich your life. So also does civic involvement, volunteer work, activity with service or fraternal organizations and one's church. A full life is a rich one and the rewards are so great.

Keep all the doors open. In fact, open a few new ones. If one opportunity flees seek another and you will be the better for it. Be a good physician, a good spouse and parent, a good citizen; the rewards are great and you will be able to enjoy life to the fullest.

— M.E.A.

Richard M. Caplan, M.D.



# Learning-in-breadth Pays

**"I**F THERE IS A PHYSICIAN aboard, would he please identify himself to the flight service manager?"

Oh-oh. It had finally happened to me. Should I self-identify, "get involved," perhaps mess up a vacation-in-prospect? Pause . . . Look around . . . No action . . . I couldn't think of a dermatologic problem great enough to provoke such an announcement. Basic CPR didn't seem too great a threat, since I'd been re-certified only 3 months before. (But do I remember how to deliver a baby? Fortunately, the voice of the stewardess had not betrayed a feeling of crisis.) Finally — probably only a few seconds — the decision was made.

"You need a physician?"

"Yes, there's an elderly lady toward the back who had some distress in breathing. She said she has "sarcoid" or something-like-that of her lungs. We gave her an oxygen bottle to breathe and she seemed OK right away. But we've just crossed the California coast, and Hawaii is a long way off. The pilot says that if you think we should land, to deal with a medical emergency, now would be the time since the point of no return is almost 2 hours away."

Great. A 747 full of passengers eager to reach Hawaii, including me, and all of a sudden my evaluation of this lady would determine what at that moment seemed pretty important to lots of people. Well, I'd already stuck my neck into that noose.

I don't have space here to keep you in appropriate suspense. Sorry about that. Enough to say that I tried quickly (almost re-

flectly I was pleased to realize in retrospect) to gather historical and physical exam information — her appearance, respiratory rate and excursion, pulse rate and rhythm, her ease at conversation in describing her health problems and medications, the absence of pain, and her complete comfort as soon as she started breathing supplemental oxygen.

I asked the stewardess what our cabin altitude was. "I don't know, maybe 19,000 feet." I said, "No way, ask the pilot."

My decision that the lady was stable and would probably be OK for the remainder of the flight proved correct. But as I settled into my seat and book again, I wondered where it was I learned what I used in helping me deal with that "consultation." I was certainly outside my usual clinical domain. My having asked about "cabin altitude" answered my query: flight surgeon training and 2 years as a flight-surgeon (including flying in jet fighter planes, even though many years ago) came back when needed. And during the years since, I'd encountered patients with sarcoidosis and other pulmonary problems and read many articles in general medicine. I was beginning to feel pleased. Maybe those 90 babies I'd delivered during internship 35 years ago would even help me do what was necessary if I were faced with *that* crisis. I didn't want to feel too smug. Yet, once again I felt reassured that my long-standing tilt in favor of educational breadth and experience was appropriate. I know it's contrary to the pressure for narrowness that now seems so omnipresent and omnipotent. But if I'm right, then it's all the more reason for me to buck that trend. Specialization will necessarily reduce breadth, but it need not eliminate it.

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Dr. Caplan is Associate Dean for Continuing Medical Education at the University of Iowa College of Medicine.

# A Required Ethics Course

FOR THE FIRST TIME LAST FALL, second-year students in the College of Medicine were required to take a course in biomedical ethics. When the course was proposed by the medical education committee and accepted by the medical faculty 2 years ago, the first semester of the second academic year seemed the best place to locate the course in the curriculum.

The College of Medicine joined the steadily increasing number of medical schools that have required courses on ethics. Approximately half of the medical schools in the U.S. now have required courses, and virtually all of the other schools offer elective courses on ethics.

The required course has several objectives: 1) students will be able to discuss the moral, professional and legal obligations of physicians; 2) students will be able to recognize the moral aspects of daily medical practice (such as confidentiality, truth telling and informed consent); 3) they will be able to analyze the ethical issues raised by cases, identify alternative courses of action and choose the best course of action; 4) they will be able to understand how multiple perspectives (such as economics, law, politics and religion) impact on the practice of medicine; and 5) they will be able to interpret some of the complex ethical issues in medicine currently confronting physicians, other health care professionals, patients, courts and society.

The course has 2 required textbooks: *A Casebook of Medical Ethics*, edited by Terrence Ackerman and Carson Strong (philosophers in the ethics program at the University of Tennessee Health Sciences Center); and *Ethical Issues in Modern Medicine*, the third edition ed-

ited by John Arras and Nancy Rhoden (he is in the ethics program at Albert Einstein College of Medicine, she was a law professor at North Carolina before her death last year).

The course has 2 contact hours a week for 15 weeks. The first hour each week is a didactic session, with most of the lectures given by me (some of the topics: confidentiality, abortion, disabled newborns, informed consent, allocating scarce medical resources). Two lectures are given by members of the medical faculty (topics: ethics in clinical practice, ethics in medical research).

The second hour each week is in a discussion group with 2 faculty preceptors and approximately 12 students. Most of the faculty preceptors are physicians (17 faculty from 10 clinical departments), along with 2 nurses, 2 social workers, a medical historian and 2 members of the UIHC's pastoral services program. The discussion sessions usually focus on a case selected for the week, either from the *Casebook* or a preceptor's clinical practice.

The students are required to attend the discussion sessions, write an ethical analysis of 2 cases and take 2 essay exams. A major portion of each exam focuses on one or more clinical cases, so that students have to apply the knowledge they have gained to the types of cases they will have in coming years.

How did the course go? The students were understandably bothered by having to take another course, but they adjusted as the semester progressed and seemed, on the whole, to think that the course was worthwhile. The faculty preceptors were more definite (they did not have to take the exams!) in their view that the course was a much needed addition to the curriculum. I look forward to teaching it again and already have plans for making it a better course next fall.

---

This column is written by Robert Weir, Ph.D., director of biomedical ethics for the University of Iowa College of Medicine.



# AIM HIGH



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## New Products and Programs

**EXPANDED ACCESS FOR AIDS DRUG** — Hoffmann-La Roche has announced it plans to further expand the availability of its anti-HIV drug ddC (dideoxycytidine) to patients with AIDS and advanced ARC in the U.S. Preparations are beginning immediately to implement a program that allows physicians to treat patients with ddC after AZT intolerance develops or treatment fails. Roche recently initiated a program to expand the access of ddC beyond its use in controlled clinical trials for patients with AIDS and advanced ARC. The protocol required that patients be intolerant to or have failed AZT (zidovudine) and also have intolerance to the experimental drug ddI (dideoxyinosine). At the time the first ddC expanded access program was initiated, Roche announced it would widen the availability of its antiviral drug when the company's medical professionals were satisfied that adequate safety information had been obtained from this study and other trials in the clinical research program. In order to make ddC available as soon as possible to the expanded population, Roche will revise the current protocol to allow physicians already registered in the program to enroll new patients who have failed AZT treatment or developed an intolerance. At the same time, a new streamlined protocol will be prepared to allow physicians not already registered to gain access to ddC for their patients. As with all studies involving investigational drugs, eligible patients will be required to meet specific entry criteria. Patients and physicians can obtain more information about these trials by calling the AIDS Clinical Trials Information Service at 1-800-TRIALS-A or Roche at 1-800-526-6367.

**IMPROVED RAPID STREP TEST** — Abbott Laboratories announced that it has begun marketing a new, improved diagnostic test, called TestPack Plus Strep A, to determine strep throat infections. The rapid test will offer results comparable to throat cultures in just 6 minutes. Abbott's new technology is a self-performing, chromatographic immunoassay

*which provides excellent accuracy and requires about 50% less "hands on time" for the physician's office staff that runs the test. The TestPack line for physician offices and other alternative sites includes tests for chlamydia, pregnancy, rotavirus and respiratory syncytial virus. A patented plus (+) or minus (-) test result system is used with all of these tests.*

**NEW CONTRACEPTIVE IMPLANT** — FDA approved the first implantable contraceptive for marketing in the United States. The approval was for levonorgestrel implants (the Norplant System), a long-term (up to 5 years), highly effective, reversible contraceptive. The Norplant System consists of 6 flexible, closed, tubular capsules, each containing the progestin levonorgestrel. The product does not contain estrogen. The capsules are inserted beneath the skin of the upper arm. The implants should be removed after 5 years and, if desired, new ones inserted at that time. For further information about the Norplant System and physician training, contact Wyeth-Ayerst Laboratories, Attention: Medical Affairs, P.O. Box 8299, Philadelphia, Pennsylvania 19101-1254. Wyeth-Ayerst has set up an 800 number for questions about Norplant: 1-800/777-6180 (8:30 to 4:30 EST).

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## About Iowa Physicians

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**Dr. Heimo Reckmann**, Algona, has retired as staff radiologist of Kossuth County Hospital. Dr. Reckmann received the M.D. degree at the University of Munich, West Germany. Prior to locating in Iowa, he practiced in Kentucky. Five Iowa City physicians were recently named fellows of the American College of Surgeons: **Drs. James F. Donovan, John Frodel, Jr., Steven Gray, John Lemmer, Jr. and Amanda Metcalf.** **Dr. Dean Gesme**, Jr. of Oncology Associates in Cedar Rapids has been named vice president of the American Cancer Society, Iowa Division, for the 1990-91 fiscal year. **Dr. Paul Pomrehn, Jr.** has been appointed associate dean for student affairs and curriculum at the U. of I. College of Medicine. Dr. Pomrehn succeeds **Dr. Charles Helms**, associate dean since 1988. Dr. Helms has returned to teaching and research. **Dr. Edward Sandy** has joined the staff of Henry County Health Center, Mount Pleasant. Dr. Sandy received the M.D. degree from Eastern Virginia Medical School, Norfolk, Virginia and completed a residency in the Department of Obstetrics and Gynecology at Ohio State University College of Medicine, Columbus, Ohio. Prior to practicing in Mount Pleasant, Dr. Sandy was located in Cambridge, Ohio. Two physicians have retired from practice at the Gilfillan Clinic in Bloomfield: **Dr. Henry Perry** and **Dr. James Mincks.** Dr. Perry practiced at the Clinic for 27 years and Dr. Mincks for 32 years. **Dr. Timothy Nagel**, formerly of the Calmar Community Clinic, has joined **Drs. Jon Adrendsen, David Crozier and Michael Whitters** at the Community Family Practice Clinic in Clarion. Retired Fairfield physician, **Dr. Gene Egli**, is serving as a medical missionary to West Africa. **Dr. Michael Donohue** of Iowa Lakes Orthopaedics, P.C., Spirit Lake, recently received certification from the American Board of Orthopaedic Surgery. **Dr. Don Green**, medical director of Share Health Plan of Iowa, was recently certified by the American Board of Quality Assurance and Utilization Review Physicians. **Dr. Saheb Sahu** of Newborn & Pediatric Specialists, P.C., Des

Moines, was recently recertified by the American Board of Pediatrics in pediatrics and neonatal/perinatal medicine.

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## Deaths

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**Dr. Albert J. Gantz**, 78, longtime Greenfield physician, died January 4 at St. Luke's Hospital in Davenport. Dr. Gantz received the M.D. degree from Wayne State University School of Medicine, Detroit, Michigan. He was a life member of the Iowa Medical Society.

**Dr. C. Robert Osborn**, 83, Dexter, died December 30 at Iowa Methodist Medical Center in Des Moines. Dr. Osborn received the M.D. degree at the University of Nebraska College of Medicine, Omaha, Nebraska and practiced medicine for 47 years before retiring in 1980. He was a life member of the Iowa Medical Society.

**Dr. Edwin Gilfillan**, 81, formerly of Bloomfield, died December 26 at his home in Englewood, Florida. Dr. Gilfillan received the M.D. degree at the U. of I. College of Medicine and practiced in Michigan before joining his 5 brothers in the Gilfillan Clinic in Bloomfield. He retired in 1973 and was a life member of the Iowa Medical Society.

**Dr. Fred Rolfs**, 83, Aplington, died December 26. Dr. Rolfs received the M.D. degree from the U. of I. College of Medicine and practiced medicine in Aplington for 44 years, retiring in 1977. Dr. Rolfs was a life member of the Iowa Medical Society.

**Dr. Orman Nelson**, 74, Jefferson, died December 11. Dr. Nelson received the D.O. degree from the University of Osteopathic Medicine and Health Sciences, Des Moines and practiced medicine in Redfield. In 1970 he established a family practice in Jefferson.

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# Classified Advertising

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**CLASSIFIED ADVERTISING RATE — \$3 per line, \$30 minimum per insertion. NO CHARGE TO MEMBERS OF IOWA MEDICAL SOCIETY. Copy deadline — 1st of the month preceding publication.**

**CENTERVILLE, IOWA** — Weekend coverage available in emergency department at this 33-bed facility. Competitive hourly rate and malpractice insurance provided. Contact Emergency Consultants, Inc., 2240 S. Airport Road, Room 43, Traverse City, Michigan 49684; 1-800-253-1795 or in Michigan 1-800/632-3496.

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**GENERAL SURGEON** — Family Medical Center, Oskaloosa, Iowa seeks BC/BE general surgeon to join its 9 member group. We offer excellent compensation, paid malpractice and full benefit package. For further information contact Linda Cohrt, Office Manager, 1225 C Avenue East, Oskaloosa, Iowa 52577 or call 515/673-6762.

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**SOUTHEASTERN IOWA** — Seeking full-time and part-time physicians for new 50-bed hospital emergency department. Attractive hourly compensation and malpractice insurance provided. Benefit package available to full-time physicians. Contact Emergency Consultants, Inc., 2240 S. Airport Road, Room 43, Traverse City, Michigan 49684, 1-800-253-1795 or in Michigan 1-800/632-3496.

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**ORTHOPAEDIST, DERMATOLOGIST, FAMILY PRACTICE, GEN/THORACIC SURGEON, PEDIATRICIAN, PULMONOLOGIST, GASTROENTEROLOGIST, OB/GYN, UROLOGIST** — To join Iowa's oldest organized multispecialty group practice (70th anniversary during 1990) in major central hub city of 30,000 serving active referral area of 250,000 citizens. Near tertiary level care practiced in community. Especially directed to those physicians concerned about quality of practice and quality of family life. Great community with unusually high list of desirable amenities. Rated 7th most desirable smaller city in Midwest in which to live. More information call 1-800/798-4321, Recruitment Coordinator.

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**TIRED OF THE RAT RACE?** — Anxious about entering private practice with the attendant risks and demands of the 90s? Why not consider emergency medicine? If you are trained in family practice or emergency medicine and are looking for a career with fixed hours, guaranteed income free of financial risk and other practice hassles, please give me a call. Kenneth P. Schultheis, D.O., President, Emergency Physicians Services, P.C., c/o Mercy Hospital Medical Center, Des Moines, 515/247-4445.

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**E. R. PHYSICIANS WANTED** — STAT, P.C., a professional corporation providing St. Joseph Mercy Hospital Emergency Department physician services, looking for qualified part-time or full-time physicians to staff the emergency department. Please direct inquiries to Lambert C. Orton, M.D., STAT, P.C., 84 Beaumont Drive, Mason City, Iowa 50401. 515/424-STAT (7828).

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**FAMILY PRACTICE AND INTERNAL MEDICINE** — Sustained and steady growth in a 5-physician clinic has created the opportunity to seek additional residency trained BE/BC family practice physicians and an internal medicine physician to complete its 1990-1991 staffing needs. North Medical Center offers an office-based delivery system, as well as separate extended hours convenience clinic/industrial medicine clinic. Combined, these entities are proven to be a rapid practice builder. Clinic facilities are new and contain laboratory, pharmacy and x-ray services. The center is located within 10 minutes of a major full-service JCAH hospital. A competitive comprehensive financial package is being offered which includes partnership potential after one year. Residents graduating in 1991 are welcome candidates. Send CV and 2 references to Hank Atherton, Chief Executive Officer, North Medical Center, 210 West 53rd, Davenport, Iowa 52806.

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## Loans Surpass \$2 Million

**T**HE IOWA MEDICAL FOUNDATION, a very special arm of organized medicine in Iowa, is about to reach a milestone. This year, the Foundation will pass \$2 million in loans to financially deserving Iowa medical students. The Iowa Medical Foundation is now the largest source of non-governmental loans for medical students at the University of Iowa.

The Iowa Medical Foundation was established in the mid-1950s to engage in, promote and financially support educational and scientific activities and projects. The Foundation is supported almost solely by contributions from Iowa physicians.

### *Assisting Tomorrow's Physicians*

The Iowa Medical Foundation has 2 significant thrusts, one being the George Scanlon Medical Student Loan Fund. The fund is named for an Iowa City surgeon who inspired and guided the program for many years.

Since the program's inception, over \$2 million has been loaned to nearly 700 junior and senior medical students with Iowa ties. This Foundation program has become more important as the cost of medical education has increased and federal funding has decreased. The average loan to medical students is now \$4,000.

### *Projects Which Help Iowans*

The Foundation is involved in or supports a number of programs and activities which benefit medicine and improve the health of Iowans. This arm of the Foundation is called the Henry Albert Physician Benevolence and Public Health Fund. Dr. Albert practiced medicine in Iowa and stipulated in his will that proceeds from his estate be used for activities benefiting the public health.

Since the mid-1960s, the Foundation has received nearly \$300,000 from this source. Just a few of the projects receiving support from the Albert Trust are:

- *Assistance Program For Troubled Physicians (APTP)* — This program helps physicians and families of physicians who are hampered by addiction or other problems. The Albert Fund is also available to help needy physicians and/or their widows.

- *Hawkeye Science Fair* — This annual event in Des Moines gives junior high and high school students the opportunity to develop and present scientific exhibits.

- *Iowa Coalition For Comprehensive School Health Education* — This cooperative effort between the Foundation and several voluntary health agencies promotes health education in Iowa schools.

- *Iowa Games* — The Iowa Games, held annually in Ames, ensure all Iowans, regardless of age or athletic ability, have a chance to keep fit through competition in a variety of sports.

- *Adolescent Health Projects* — The Foundation recently contributed to 2 projects aimed at improving the health of Iowa's young people. The first contribution was to the Iowa High School Athletic Association, which is producing posters discouraging substance abuse to be distributed in Iowa junior and senior high schools. The second project involved a contribution to underwrite educational materials on to acco sales to minors.

Obviously, Iowa physicians can be proud of the Iowa Medical Foundation and the Iowa physicians who have supported the Foundation deserve praise.

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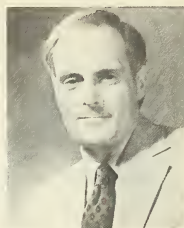
March 1991

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Iowa Medicine

## President's Privilege

Robert D. Whinery, M.D.



## A Tribute

THE UNIVERSITY OF IOWA and its college of medicine, hospitals and clinics are sources of pride for all Iowans. This month's issue focuses on the university, and I can't reflect on the tremendous accomplishments of the UI College of Medicine without discussing Dean John Eckstein, who recently announced his August retirement.

You've heard and will hear much more in the coming months concerning Dr. Eckstein's superlative leadership. During his 20 years as dean, the college has become preeminent and Iowans have profited. It's been my good fortune to live in Iowa City and observe his achievements. I was privileged as a non-academic physician to serve on the medical admissions committee and chair a subcommittee for recertification of the UI College of Medicine. These experiences showed me our medical school is very much alive and extremely well!

You've come to expect my monthly columns to deal mostly with organized medicine. Surprisingly, this tribute to Dean Eckstein fits that pattern because my closest association with Dr. Eckstein has been in

medical society work at the county, state and national levels.

Dr. Eckstein serves as an AMA delegate from the medical schools section and, at AMA meetings, has been an active participant in caucusing with Iowa delegates. He is also with us at the North Central Medical Conference. He's been a very vital part of your Iowa Medical Society. He believes in the federation of medicine and what it can do for the teaching and the practice of medicine.

So as we reflect on the many gifts Jack Eckstein has given to Iowa medicine, please remember that in his busy schedule he found the energy and the time to contribute and be heard through his state and national medical societies.

Should we do less?

*Robert D. Whinery, M.D.*

Robert D. Whinery, M.D.  
President

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*World's Longest Acronym  
Iowa's Newest Medical Organization*

# **IALTCFMD**

**It stands for . . .  
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CARE FACILITY MEDICAL DIRECTORS**

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Organized in January, 1991, **IALTCFMD** will serve Iowa physicians involved with nursing homes -- as medical directors or any other active basis. What will **IALTCFMD** member physicians receive?

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- **Assistance in researching and getting answers to specific questions relating to long-term care.**
- **Periodic seminars/briefings/education sessions on key issues, e.g., government regulations, contracts, liability, etc.**
- **Representation with Iowa nursing home organizations, governmental agencies and the Iowa General Assembly.**

As an affiliate of the American Medical Directors Association, the **IALTCFMD** has these Iowa physicians on its Board of Directors:

**Emmett Mathlisen, M.D. - Council Bluffs**

**Robert Wettach, M.D. - Mt. Pleasant**

**Donald Rodawig, Jr., M.D. - Spirit Lake**

**Glenys Williams, M.D. - Iowa City**

**Ronald Roth, M.D. - Waterloo**

**Roy Overton, II., M.D. - West Des Moines**

**Paul Ferguson, M.D. - Lake City**

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**For More Information/To Request Membership Applications**

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## Seeing the Future

**A**BSTRACT ART, PERHAPS, but more than that this month's cover photograph shows how far medical research and diagnosis via computer have come.

A product of the image analysis facility at the University of Iowa, the photo depicts a 3-dimensional, 360-degree rotation of the vascular system of a pig in detail sufficient to reveal occlusions and other anomalies.

UI College of Medicine cardiovascular researchers employed computed tomography equipment at University Hospitals and Clinics that scans rapidly enough to avoid motion artefacts in a single cross-section.

Dr. Robert Weiss, UI assistant professor of internal medicine, points out that this alternative to conventional cineangiography is made possible by display software that takes advantage of 3-dimensional data sets created by most scanners. It yields a significant reduction in the amount of time once required to construct 3-D images, he said.

Conventional imaging of angiography for diagnosis is very costly and imparts a certain risk to the patient because an injection catheter must be placed in the heart. Dr. Weiss said the new approach using volume rendering of

data may ultimately avoid these drawbacks as researchers find ways to make the procedure generally noninvasive.

He said the research aims to improve evaluation of coronary arterial geometry as part of diagnosing coronary heart disease, in which the state of coronary anatomy significantly contributes to choosing medical versus surgical therapy.

Other potential projects include an animation of a beating heart as well as imaging other vascular beds of the body.

The UI image analysis facility is directed by Boyd Knosp, a computer engineer. Located in the Eckstein Medical Research Building in the College of

Medicine, it serves faculty, students and public service needs. The facility uses software and super-computing graphics workstations to create rotatable, 3-dimensional views from data recorded by body scanners and electron microscopes. Molecular modeling is also done.

Images can be digitized from film, video signals and tape, microscopic slides, electron micrographs, autoradiograms and photographs. They can be visualized via color graphics printers and on video monitors and transported on disk, tape or via modem.



# Teaching Prevention

ANNE DUGGAN  
Iowa City, Iowa

**N**INETY YEARS AGO, SOME OF THE most common causes of death in this country were infectious in origin. Children were especially vulnerable. Tuberculosis, pneumonia, influenza, diarrhea and enteritis were common. Ultimately, public health practices and newfound knowledge in microbiology, immunology and nutrition markedly reduced morbidity and mortality.

Today, untimely death from infectious disease has been replaced by delayed death from chronic ills such as heart disease, cancer, cerebrovascular disease, injuries and diabetes. As in the 19th and early 20th century, the key to stopping the "spread" of many of these diseases may be prevention.

## *Prevention's Place*

Prevention has its place in the curriculum at the UI College of Medicine.

"Prevention needs to be taught at all levels of the medical school experience," says Dr. Paul Pomrehn, associate dean for student affairs and curriculum and associate professor of preventive medicine and environmental health.

"Here, we believe it should be taught on a number of levels, from the first year course in biostatistics, which teaches students to be good consumers of scientific literature, to fourth year preceptorships, when students interact with practitioners around the state who serve as role models."

Second year students are required to take a semester course in preventive medicine. Pomrehn, who taught the course until becoming associate dean this year, says the course "lays the groundwork for clinical prevention they will observe and practice later."

Next fall, Dr. Helmut Schrott, associate professor of preventive medicine and environmental health, will teach the course.

Students find prevention fits into many parts of the curriculum, Pomrehn says. "For instance, in systemic pathology students will hear a lecture on cytology that discusses the Pap smear in the diagnosis of cervical cancer. The students' understanding of this screening test and risk factors for cervical cancer will be reinforced when they rotate to gynecology."

But, learning the importance of screening tests is just a small part of the required course, Pomrehn says. "The course introduces the importance of public health and environmental health in disease prevention."

We also stress the importance of one-on-one interactions with patients, he adds. "All physicians should recognize the power they have to persuade a patient to change a high-risk behavior such as smoking."

Pomrehn adds that preventive medicine is best practiced by all health care providers as a team. "When I'm teaching students, I also point out that it's not the doctor's responsibility alone. The most successful efforts involve support staff and other professionals supporting each other in encouraging and helping people to change risky behaviors."

Putting that philosophy to work, Pomrehn is principal investigator of the 3-year

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Anne Duggan is an associate editor in the UI office of Health Center Information and Communication.

Community Intervention Trial for Smoking Cessation (COMMIT) study, which is part of a 10-site study to help smokers quit through their workplace, community organizations and health care providers. He is also a member of the local chapter of Doctors Ought to Care (DOC), a national organization of physicians that has worked actively to publicize the harmful effects of smoking.

### ***OB/GYN: The Range of Care***

In their 6-week rotation in obstetrics and gynecology, students see one of the few specialties that encompass the full range of health care management, says Dr. Douglas Laube, professor of obstetrics and gynecology.

"Specialists in OB/GYN enjoy a unique status as physicians who meet a variety of health care needs. We try to reflect this in both the lectures and on-the-job training for medical students," says Laube, who has directed the junior clerkship course for the past 12 years.

Students attend daily lectures and split their time in the obstetrics and gynecology clinic. "OB/GYN is more primary care oriented than many other clinical specialties. Partly that's the nature of the specialty and partly it's emphasized as such in this institution."

Of the 28 lectures in this rotation, 7 are clearly preventive in nature. He points out that his lecture on menopause emphasizes prevention, "although it's one of the least obvious as preventive medicine." Laube talks about the long-term benefits of hormone replacement therapy, and its effect on osteoporosis, lipid levels and heart disease.

"This can be exciting for students, because what would be better than making a positive impact on the last half of a patient's life?" he asks.

Many of medicine's most successful models of prevention come from OB/GYN, Laube says. "The classic graph of prevention is based on the Pap smear model — both in treatment and as a screening tool."

Students learn a great deal from the women patients they see, because women are traditionally some of the best health care consumers, Laube says. "They know the direct benefits of preventive care and this teaches the students a great deal."



**Dr. Douglas Laube, professor of obstetrics and gynecology, demonstrates the importance of preventive medicine to UI College of Medicine students.**

UI students will naturally be exposed to a great deal of interventionist medicine. "UI physicians see many specialty referrals," he says. "They will see that here, as well, but at the same time, OB/GYN shows them a successful model in prevention."

Much is made in medical school of "the teachable moment" Laube says. "It can be made of any patient encounter whether they're in for routine maintenance or a specific problem."

### ***The Family Practice Model***

Students in the third year preceptorship in family practice focus on a "top 20" list of diagnoses seen by family physicians in Iowa, says Dr. George Xakellis, associate professor of family practice.

The students' readings are concentrated in these areas and the readings on prevention are from their second year course text. "It's a way of using the clinical experience to back up the classroom learning," he says. "The basic information will be familiar to the students and they can begin applying it to the treatment of patients."

For example, one of the most frequent visits to a doctor is the negative physical exam or check up. "This encounter is a way to teach a patient about prevention. Students see that this situation gives the physi-

*(Continued next page)*



cian an opportunity to intervene and make a real difference in the patient's long-term health."

Xakellis, who lectures on how to turn the insurance physical into a preventive medicine intervention, says, "we need to find ways to transmit information to people. It doesn't mean anything to them unless it's real."

Xakellis uses a vending machine snack to illustrate to students the pervasiveness of fat in the diet. "They know from their read-

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*'All physicians should recognize the power they have to persuade a patient to change a high-risk behavior such as smoking.'*

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ings that the American Heart Association recommends keeping the fat content less than 30% of your daily diet. In a way that will make sense to their own patients, they can learn to figure the fat content of common foods and snacks.

"According to the label, this snack has 13 grams of fat and 250 calories. Knowing that each gram of fat has 9 calories, they can calculate the number of fat calories and divide this by the total number of calories. Multiply this figure by 100, and they see those few bites of snack food are about 45% fat."

He adds, "So much of family practice is done in the office setting. Ninety percent of the patients they see will be in for ambulatory care."

Xakellis says he enjoys working with medical students because of their enthusiasm. "They come in thinking about their own experience with their family doctor. Those who come from small towns know how important the family practitioner is to their community."

The fourth year elective family practice clerkships are in a residency setting. "The students study the areas of prevention that interest them. Then we role play a patient-physician encounter. I come to see them as a patient and their job is to educate me about a specific aspect of prevention."

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**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence: 1,3,4 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.<sup>3</sup>

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#### References:

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# UI Programs Spread the Word on Prevention

VERA DORDICK  
Iowa City, Iowa

**P**ATIENTS ARE TAKING MORE responsibility for their own health and have increasingly looked to the physician for preventive measures and not just a remedy or treatment.

Programs at the UI College of Medicine are teaching Iowa physicians more about helping patients avoid injury and illness.

## *AIDS in Iowa*

As of January 1, 1991, 232 cases have been reported to the Centers for Disease Control. Although low when compared to high-incidence regions of the United States, the impact of HIV/AIDS on the state's health care professionals and the public is substantial. It is clear that education and prevention are the keys to controlling the disease.

Responding to these needs is the Midwest AIDS Training and Education Center (MATEC) at the UI. Iowa, Illinois, Indiana, Minnesota, Missouri and Wisconsin comprise MATEC. Via telephone contacts, personal visits, printed and audiovisual materials, funding and technical assistance, the Iowa site helps develop HIV/AIDS-related educational materials for Iowa physicians and other health care professionals.

"These special or supplementary opportunities for AIDS education would not occur

were it not for the technical and financial assistance we can offer," says Dr. Charles Helms, UI associate professor of internal medicine and director of the Iowa site. "Much work remains, however, particularly in prevention and education and we want to help state and local groups meet their needs."

## *Fighting Cholesterol*

Physicians in Iowa and 6 other states in the region can receive special training in detecting and managing high blood cholesterol levels and other lipid disorders through a new program coordinated by the American Heart Association.

"Just telling patients to cut down on high-fat, high-cholesterol foods isn't enough. We're trying to bring the best diagnostic and treatment care to patients in the real world," says Dr. Helmut Schrott, UI associate professor of preventive medicine and environmental health, and of internal medicine, and director of the center.

The lipid disorders training center program at the UI is one of 6 around the country which will train at least 1,500 physicians over the next 3 years.

## *Starting Young*

High blood pressure and obesity are also known coronary risk factors among adults, but the childhood beginnings of heart disease and how they should be treated are less well understood.

For more than 20 years, UI researchers have been investigating coronary risk factors in children and how they relate to adult-

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Vera Dordick is with the UI office of Health Center Information.

hood. Generations of Muscatine, Iowa school children and their families have participated in the project.

"The findings of this study have been used to establish normal levels for blood pressure and cholesterol and degrees of

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*'The Occupational Medicine Associates Network encompasses 10 occupational medicine clinics based in hospitals around the state.'*

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obesity in childhood," says Dr. Ronald Lauer, UI professor of pediatric cardiology.

Going one step farther is the Dietary Intervention Study in Children (DISC) being conducted among school children in Cedar Rapids, Clinton and Muscatine. "We're trying to develop the optimal, safest techniques for lowering cholesterol among younger children," Lauer says.

### ***Help for Older Iowans***

Iowa physicians and other health care workers can learn about preventive measures that can improve the quality of life for the elderly through the UI's Geriatric Education Fellowship Program.

"Most medical school curricula traditionally have included little training in geriatrics," says Patricia Andrews, program associate for the Iowa Geriatric Education Center. "This UI program makes health care workers aware of the differences that may occur in disease presentations among the elderly," Andrews says.

Fellows come from a variety of disciplines — physicians, nurses, social workers, dentists, nursing home administrators and physical therapists. For 9 to 10 months, participants spend 2 days each month at the UI, learning from local and national experts information they can take back to their jobs.

### ***Making Work Safer***

Sometimes a patient's livelihood or the tools of his or her trade can cause medical problems.

"WORKSAFE IOWA, a one-of-a-kind program run by the UI Institute of Agricul-

tural Medicine and Occupational Health, is a resource to Iowa physicians when dealing with occupational illnesses and injuries," says Dr. Nancy Sprince, medical director for WORKSAFE. The program brings together occupational health experts from many disciplines who consult with primary care physicians, Sprince explains.

The Occupational Medicine Associates Network, also part of WORKSAFE, encompasses 10 occupational medicine clinics based in hospitals around the state. The network is a model outreach program based on a team approach that helps communities implement or strengthen occupational health services, Sprince says.

Funded by the Kellogg Foundation, WORKSAFE resources are available to physicians through a computerized network, consultations and continuing education sessions that provide basic occupational medicine information to primary care givers.

### ***Safety on the Farm***

In a state where the principal industry is also the nation's most dangerous occupation, programs to prevent farm injuries and illness are particularly important.

One such program is the Iowa Agricultural Health and Safety Service Program (IA-HASSP). "It's designed to deliver comprehensive occupational health and safety services to farm families by working through local hospitals," says Kelley Donham, UI professor of preventive medicine and environmental health.

In addition to classroom training, "IA-HASSP gets affiliated nurses and physicians out onto the farm and introduces them to the structures and equipment and the problems associated with them," Donham says.

Local physicians also help the program by promoting it, taking referrals from the IA-HASSP program, providing consultation and giving lectures on farm safety and health to community and school groups.

Currently, IA-HASSP clinics are operating in Marshalltown and Cedar Falls, and 4 others will soon begin providing services in Mason City, Dubuque, Spencer and Harlan.

IA-HASSP is part of a larger project, the Iowa Center for Agricultural Safety and

*(Continued next page)*

Health (I-CASH), which is a cooperative effort between the UI, Iowa State University, the Iowa Department of Public Health and the Department of Agriculture and Land Stewardship.

### ***Kicking the Habit***

This year lung cancer will become the deadliest cancer among Iowans, claiming more women than breast cancer. Because nearly 9 out of 10 lung cancer cases in Iowa are smoking related, more effective approaches are needed to help people quit.

The Community Intervention Trial (COMMIT) for Smoking Cessation being conducted in Cedar Rapids/Marion is a study that treats smoking as a multifaceted public health problem that calls for a variety of strategies.

Counseling by physicians is an integral part of COMMIT — funded by the National Cancer Institute (NCI) — as are mass media efforts, self-help programs and worksite programs.

"A physician's relationship with a patient can be a very powerful one, especially

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*'The lipid disorders training center program at the UI is one of 6 around the country which will train at least 1,500 physicians over the next 3 years.'*

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when it comes to prevention advice. A COMMIT survey of smokers in Cedar Rapids showed that 70% would quit if their physician advised them to," says Dr. Paul Pomrehn, UI College of Medicine associate dean for student affairs and curriculum and principal investigator of the study.

The NCI has conducted clinical trials to determine the most effective method for physicians to help patients quit smoking.

"A doctor's influence on public health issues extends beyond the office and COMMIT has been an opportunity for physicians, who are on the front-line of this issue, to express to the community how important smoking cessation is," he adds.



Physicians associated with the Iowa Agricultural Health and Safety Service Program tour a farm to study various health problems farm structures can cause.



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# Reaching Out to Save Lives

**S**INCE 1978, MORE THAN 27,000 Iowans have been trained in emergency medical techniques through outreach courses offered by the Emergency Medical Services Learning Resources Center (EMSLRC).

The center at UI Hospitals and Clinics teaches health care providers basic and advanced emergency medicine techniques. In 1980, as part of a rural EMT-Defibrillation study, EMSLRC began instructing emergency medical technicians life-saving defibrillation skills. The training resulted in an increase in Iowa's survival rate from ventricular fibrillation from 1% to nearly 17% today. Concepts initiated by the EMSLRC are included in all American Heart Association-sponsored Advanced Cardiac Life Support programs.

EMSLRC was one of the first centers in the country to develop a Pediatric Advanced Life Support training program. Information from this program eventually was adopted by the American Heart Association and disseminated nationally in 1987.

Leadership and innovation are hallmarks of EMSLRC. The center has initiated several programs in Iowa, including the state's first prehospital trauma life support instructor-coordinator program and a neonatal resuscitation program regional instructor training course. In addition, EMSLRC staff provides Iowa's only full-time paramedic training program. Approximately 335 paramedics have received this training.

As Iowa's only American Heart Association designated provider of advanced cardiac life support (ACLS) and pediatric advanced life support (PALS) training, EMSLRC has certified more than 3,500 ACLS instructors and 300 PALS instructors nationally and internationally.

By blending quality assurance, education and leadership, EMSLRC has shaped the quality and effectiveness of emergency prehospital and in-hospital care, not only in Iowa, but nationally.



Above: A student familiarizes himself with a manual defibrillator during a paramedic training program . . . Clockwise from top left: Practicing ventilation procedures for an infant is also part of the neonatal resuscitation program for physicians . . . Students learn rapid extrication techniques as part of the pre-hospital trauma life support program . . . CPR courses include demonstrations on the adult obstructed airway maneuver . . . A physician practices infant intubation as part of a neonatal resuscitation program.





# Specialists in Preventive Medicine

**P**REVENTIVE MEDICINE IS AS CLOSE as the next patient who enters the office.

"We take pride in considering ourselves specialists in the clinical application of preventive medicine," says Dr. Richard C. Dobyns, associate in the University of Iowa Department of Family Practice.

He and colleagues in the UI Family Practice Clinic say patients are increasingly aware of prevention, even though the patient's definition of prevention may not always be that of the physician.

Dr. George Bergus, who teaches medical decision making, said, "We often find that when patients think of preventive medicine, they're thinking of 'high tech' things like ultrasound carotid scans and not the 'low tech' things that are very important and do-able by the patient. Basically, physicians become the role models and the pacesetters. They send important messages, whether it be about smoking or wearing seat belts. I always ask patients about seatbelts and they think it such a strange question."

A feature of prevention in the UI clinic is the continuum of care. House calls are part of the continuum, according to Dr. Holly Hendrickson, fellow and associate, who works with geriatric patients.

"Community focus is growing," Dr. Hendrickson said, "and includes home visits by physicians and others to assess risk of injury and disability and to look for ways to improve quality of life and prevent hospitalization. We're involved in case management teams made up of care agency representatives who meet to coordinate and facilitate prevention, nursing home placement or hospitalization."

She points out that many of the current generation of "young old" and "old old" did

not get regular health care. "But we will see more demand for preventive services as our middle-aged population becomes older." Dr. Hendrickson said the need to control costs will spur continuing research into the efficacy of prevention.

As a clinical psychologist, Dr. David Kearns, assistant professor in family practice, deals with physician and patient.

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*"We will see more demand for preventive services as our middle-aged population becomes older."*

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"There is a very clear behavioral focus to much of the training here. I like teaching counseling skills to residents because many practitioners simply won't have the luxury of sending patients down the hall to see a counselor or therapist."

Determining risk factors in patients and screening for indications are important steps in prevention. Dr. Dobyns is developing a plan of instruction for residents in screening for asymptomatic coronary artery disease.

What of the perception of the physician by the patient, and vice versa? "Today the physician image is far less that of the paternalistic, all-knowing doctor," said Dr. Dobyns, who formerly was in private practice.

"We focus much more on the autonomy of the patient. When we talk about preventive health care, we can tell patients what to do and encourage them, but the patient ultimately makes the decision."

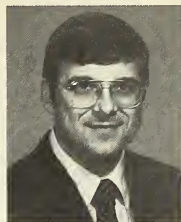


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## Questions and Answers

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Charles Driscoll, M.D.



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# What is 'Healthy People 2000?'

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*The author, professor and head of the Department of Family Practice, University of Iowa College of Medicine, discusses the future of prevention.*

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### Is this the decade of prevention?

Health promotion is always on the agenda, but in this decade, with impetus from U.S. Secretary of Health and Human Services Louis W. Sullivan in his "Healthy People 2000" report last fall, we're asked to focus on these points:

A long life without quality is an insufficient goal; we should strive for a long life with good health quality.

There is a significant disparity in our nation between those who have access to health care and those who have little or no access.

We ought to improve health care access through promotion and education.

### What do you foresee with respect to these statements?

We must begin with the realization that people unable to pay for preventive or treatment services do not seek them, nor does our system give incentive to care givers to search for people in high-risk groups. Education and promotion are not the entire answer, witness the persistence of smoking and the spread of AIDS in a society that is generally well informed.

Another circumstance we must confront is the amount of health care resources used at or near the end of life compared with those used for prevention and screening. We've got the pyramid standing on its point.

### Is Iowa in a better position for improving prevention?

I can tell you what we heard in February from a national consultant who reported to the Iowa legislature: Some 220,000 Iowans are uninsured (many more are underinsured), and 60% have full time jobs. They don't make enough to afford insurance, let alone preventive services. There are about 85,000 Iowa children who do not have access to well-child care, immunization or preventive services.

It is estimated that in order to afford health insurance, a family of 3 must have an income of 250% of poverty-level income. That means it takes an income of \$25,000 to have enough money to include insurance.

We also have people who can afford health care and may have insurance, but do not take care of themselves.

The underlying theme is access to care. We must acknowledge that the barriers go beyond insurance to such things as transportation, language, child care, distance to care and number of providers. Iowa is better off in some respects, in part because of the state's Family Practice Residency Program network and other community-based services administered by the College of Medicine.

*(Continued next page)*

### How can practitioners help?

From the standpoint of reaching the seemingly unreachable, that's not something we can do much about in practice. But there are additional procedures being incorporated by primary practitioners, such as exercise testing, flexible sigmoidoscopy and colposcopy that formerly belonged to the cardiologist, the gastro-enterologist and the gynecologist/oncologist. We're doing more screening today and I think we are waking up to environmental problems and nutritional connections to health.

Physicians need to use every patient visit for prevention. They should say to the patient with the laceration or sprained ankle, "By the way, how's your diet?" and to the woman in her mid-40s, "What's your calcium intake?"

Aside from the patient, we're also challenged to lead new initiatives aimed at producing larger social changes. Effort must be invested in working with local, state and federal governments to enact legislation that may include incentives or sanctions for behavioral change.

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# Is the AIDS Epidemic Ending?

PETER DENSEN, M.D.

JACK STAPLETON, M.D.

Iowa City, Iowa

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*Some experts have underestimated the number of AIDS cases we will see in the coming decade, say these authors.*

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RECENT ARTICLES HAVE FOCUSED ATTENTION on projections of the cumulative number of cases of AIDS, AIDS related deaths and the course of this epidemic in the United States.<sup>1,2</sup> Unfortunately, projections regarding the spread of AIDS and the future financial cost of the virus differ by as much as 3 to 10 fold.

One method for developing estimates is to determine the number of new cases of AIDS each year and base projections on the change in this number from year to year. This approach is reasonably accurate for short but not long-term projections. A second method (Farr's Law of Epidemics) is based on calculations using the rate of change in the number of new cases per defined period of time. In a typical epidemic such calculations demonstrate an in-

crease, crest and fall in the rate of new case development. In a simple illustration, a new disease is introduced into a population of 20 susceptible people. If the number of new cases were to double each year there would be 1, 2, 4 and 8 new cases in years 1 through 4 of the epidemic. At the end of these 4 years, only 5 susceptible individuals would remain uninfected making it impossible for the number of cases to double again.

Reality is never this simple because other factors such as the mode of transmission, behaviors that put people at risk and immunity influence the rate of spread. The intuitive appreciation of this relationship is supported by an analysis of AIDS incidence data that demonstrated a steady decline in the rate of increase in new cases from 2.8 fold in 1982-83 to 1.3 in 1986-87.<sup>1</sup> Using these data, it was estimated that the AIDS epidemic in the U.S. crested in 1988 and will decline to a nadir in the mid 1990s with a total of 200,000 cumulative AIDS cases. We believe this projection to be a gross underestimation since it is incompatible with estimates of the number of HIV infected people (approximately 1 million) and knowledge of the probability that most (70-100%) infections will ultimately progress to AIDS. This estimate is also inconsistent with other published projections.<sup>2-4</sup>

## *HIV is Underreported*

A critical factor contributing to this underestimation relates to the use of AIDS incidence data to calculate the course of the epidemic. AIDS is the end result of an infection acquired

The authors are associated with the University of Iowa College of Medicine, Department of Internal Medicine.

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR APRIL 1991

years earlier. Individuals with AIDS comprise only a small fraction of the total population infected with the virus. The size of the HIV infected population in America is unknown but was estimated from seroprevalence data to be approximately 750,000 individuals in 1985.<sup>5</sup> Although revisions in the number of IV drug users living in the U.S. and decreased

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*'Empirical observation suggests 70-100% of the HIV infected individuals will progress to AIDS in an average of 10-11 years.'*

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rates of new infections in some populations of homosexual men have led to minor reductions in the estimates of infected Americans, the number of HIV infected individuals remains approximately one million (750,000 to 1,700,000).<sup>6</sup>

Empirical observation suggests 70-100% of the HIV infected individuals will progress to AIDS in an average of 10-11 years. This "incubation period" varies among groups with different risk behaviors as a result of additional factors that affect the level of resistance to HIV infection and its progression to AIDS. In addition, as AZT treatment for HIV infection and prophylaxis for *Pneumocystis carinii* pneumonia are initiated more uniformly and at earlier stages of infection, the time from initial infection until an individual meets the criteria for the diagnosis of AIDS will lengthen.

Lastly, mortality data for IV drug abusers in New York City suggest AIDS may be underreported in this population by as much as 25-40%.<sup>7</sup> The net result of these combined effects is to decrease the number of newly diagnosed cases of AIDS per year and thereby to affect the accuracy of predictions based on Farr's Law.

How can these confounding factors be eliminated to improve the accuracy of future predictions? It is important to base projections on changes in the yearly seroprevalence of HIV infection (the actual event of interest) rather than cases of AIDS, a result that is chronologically remote from the event of interest. When this has been done either alone or in conjunction with methods to account for the variability

of the incubation period from infection to AIDS, the estimates of the magnitude and duration of the AIDS epidemic are considerably greater than those predicted by Farr's Law.<sup>1,2,8</sup>

For example, a recent study of 26 "sentinel" hospitals from geographically disparate areas within the U.S. found a median seropositive prevalence of 0.7% (range 0.1%-7.8%) among individuals without known HIV infection or AIDS.<sup>8</sup> Each hospital identified at least one seropositive individual who was seen for reasons other than those possibly related to HIV infection. Based on their data, the authors concluded that this level of HIV seropositivity "can only be consistent with a level of HIV-1 infection in this and other high-risk populations in central cities in the U.S. well beyond that accounted for by the number of cases of AIDS diagnosed to date. Our findings yield no support for the premise that the AIDS epidemic will soon abate even in areas affected earliest, such as the New York Metropolitan area."<sup>8</sup>

### ***Heterosexual Transmission***

The size of the heterosexual population at potential risk for acquiring HIV infection is huge even if the efficiency of transmission and rate of spread in these individuals is less than in other populations. Spread of the virus into the heterosexual population will further compound the human travesty, shrink health care dollars and strain health care delivery systems. Evidence this process is already occurring is suggested by data indicating a 5-10% increase in HIV seropositivity and AIDS among women during the past 2 years. In high prevalence areas the ratio of HIV positivity in males to that in females has decreased to 2:1, thereby increasing the probability of heterosexual transmission.<sup>9</sup>

An important aspect is that teenagers and young adults, although knowledgeable about AIDS, its transmission and risk behaviors to avoid, lack the ability to apply this knowledge to their individual situations.<sup>9,10</sup> In this context articles that project the magnitude and duration of the HIV epidemic from a purely theoretical point of view commit a disservice unless they also stress the need for continued vigilance until objective data support the accuracy of their projections.

Compared to other states, Iowa has a small number of indigenous AIDS cases: 1 in 1983,



4 in 1984, 12 in 1985, 19 in 1986, 35 in 1987, 47 in 1988, 49 in 1989 and 65 in 1990 for a total of 232. The limitations of AIDS case data discussed previously apply to Iowa. For example, we have seen over 400 persons with HIV infection at University of Iowa Hospitals and Clinics and Iowa City VA Medical Center since 1983. However, the largest number of individuals with AIDS in Iowa reside in Polk county and most do not receive their medical care at the University of Iowa. Thus it would not be surprising if Iowa will provide medical care to over 1,000 cases of AIDS in the next decade.

## Summary

In summary, current projections appear to underestimate the magnitude and course of the HIV epidemic because they are based on the end result of the infection rather than new infections. This concern is true at the local and the national level. Accurate planning requires that the level of and changes in the prevalence of HIV seropositivity in a random sample of the state and/or national population be deter-

mined at periodic intervals. Coupling these data to an assessment of the prevalence of affected individuals at various stages of HIV infection and the rate of progression from one stage to the next is critical to projections of the future magnitude and timing of expenditures for the various health care services.

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## Letters to the Editor

### Magazine Content Draws Praise

Dear Editor:

Thank you for your great profile of the mission work in Haiti. I especially appreciated the subject matter that you chose to use and its accuracy. God's grace and peace be with you. — Craig C. Schultz, D.O., Dubuque.

Dear Editor:

Articles on individualized CME, case reports on toxic shock syndrome, histoplasmosis and amino glycoside use and any column by Dick Caplan, what else could I ask for? It was almost like reading a journal customtailored to my needs and interests. — John W. Olds, M.D., Des Moines.

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### Recent Books

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Scher, Jonathan and Carol Dix, 1990, *Preventing Miscarriages: The Good News*, Harper and Row, New York, New York, \$18.95. During the past 5 years, new knowledge has evolved about the causes of lost pregnancies. This book will help women understand the causes of miscarriages. The various known causes of miscarriage are adequately discussed as well as management of women prone to miscarriage. Numerous sources of support for parents are listed as an appendix. The authors write in an easily understood, caring manner. Case examples are valuable and add realism to the presentation.

Zusman, Jack, 1990, *Credentialing and Privileging Systems*, American College of Physician Executives, Tampa, Florida, \$19.95. Any physician serving on the executive committee of a medical staff should have access to this book. It is the "what, where and how" to the responsibility of determining the credentials and staff privileges of colleagues seeking positions on a medical staff. Written in a concise fashion, answers are relevant to the dilemmas often met in such an arduous task. Copies can be

obtained from the American College of Physician Executives, 4890 West Kennedy Boulevard, Suite 200, Tampa, Florida 33609-2575.

Klawans, Harold L., 1990, *Newton's Madness: Further Tales of Clinical Neurology*, Harper and Row, New York, New York, \$17.95. The author previously published a volume of neurologic tales entitled *Toscanini's Fumble*. This second volume continues with a number of neurologic case studies presented in a narrative style designed for lay readers as well as light reading for the physician. I particularly enjoyed 2 tales of the 22 presented: "Joshua's Curse" and "The Girl with Dancing Eyes."

Perkins-Carpenter, Betty, 1990, *How to Prevent Falls: A Comprehensive Guide to Better Balance*, Senior Fitness Productions, Rochester, New York, \$9.95 plus \$2.00 postage and handling. Written for senior citizens, this book teaches a series of balancing exercises designed to help prevent falling or in case of falling how to do so safely — "like cooked spaghetti." This book has been endorsed by the National Safety Council. The author is knowledgeable and works with seniors in a variety of arenas. Fun for the body provides fun for the mind.

Meshinsky, Joanne, 1991, *How To Choose a Nursing Home: A Guide to Quality Caring*, Avon Books, New York, New York, paperback, \$7.95. The author, a geriatrics nurse, speaks from over 15 years experience in long-term care. The chapter heads indicate the wide scope of her thesis: How nursing homes are regulated and operated, how to choose a nursing home and pay the fees, the actual moving into that new environment, what life may be like in a nursing home and how to handle problems that arise. The author appears to have a keen insight to patient's rights. Response references are cited. Also a glossary of terms as well as a short compendium of drugs used for geriatric patients adds to the value of the book.

Antonello, Jean, 1991, *How to Become Naturally Thin by Eating More*, Avon Books, New York, New York, paperback, \$4.95. The author calls this an "anti-diet book." Her suggestions seem practical and throughout her discussion she intersperses inspirational thoughts to help the person with an obesity problem develop new concepts of eating.



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## The Editor Comments

Marion E. Alberts, M.D.

# Physicians Called To Serve Again

3 December 1943

ORDER TO REPORT FOR INDUCTION:

The President of the United States

To: Marion Edward Alberts, Order No. 11,401

GREETINGS:

23 July 1950

From: Commandant, Ninth Naval District

To: LTJG Marion E. Alberts, USNR, 488013

Subject: Active Duty Orders

**N**UMEROUS PERSONS HAVE RECEIVED official communications such as these. Among them are a number of physicians. My generation has been plagued with wars and "conflicts": World War II, Cuba, the Korean conflict, the Vietnam misfortune, Panama, Granada and now the Gulf War. In addition there has been the constant gloom of the "cold war."

In each of these, physicians have served in multiple capacities. Some were not in combat zones; others have been in front-line MASH units or aboard ships under fire.

Advances in the care of battle casualties have been phenomenal. Preventive medicine has placed the combatants in more favorable status re sanitation, immunizations and self-care. Air transportation and sophisticated hospital facilities have aided expeditious aid to the wounded. Many techniques developed during war have been incorporated into every day emergency care.

During World War I combatants were faced with chemical warfare — nerve gas. Our service personnel in the Gulf War faced the same terrors. May it never happen!



Guided missiles, sophisticated bombing and booby-traps are horrendous enough without the inhuman use of chemical and biologic warheads. Nuclear weapons are another inhuman factor to be considered. America does not stand guiltless in this matter inasmuch as we were the first to use nuclear bombs in Japan. The destruction and terror rendered by those attacks undoubtedly shortened the war, but do we ever need to repeat such an attack?

A number of Iowa physicians were called to active duty. I know the feeling: induction to serve during World War II, recall to active duty in 1950, stand-by orders to report within 24 hours during the Vietnam conflict; and, finally retired status in the Navy Reserve. I have no regrets that I was called to serve; but, it is all so needless. Many others have lived with these shadows over their lives and it is all so unfortunate. It is often said "war is hell." If that is true, as surely it is, why does mankind continue to subject itself to repeated eras of hell? Human nature being as it is, war will probably continue for eons to come. Cain and Abel fought a disastrous conflict; men and nations have continued the same innane behavior. There may have been good things resulting from wars, but the costs have been very high. Let us hope humans will ultimately learn to solve problems in a saner manner.

We must continue to support our service personnel and our policy makers in government. All of us should strive to make our world a stable brotherhood. May all our men and women who serve in the Gulf War return home safe and sound. — M.E.A.

## Inadequate Follow-up of Abnormal Lab Values

A 71-YEAR-OLD-FEMALE was admitted to the hospital with shortness of breath and abdominal pain. She had a history of severe chronic obstructive pulmonary disease and secondary carbon dioxide retention. Her temperature was 100° Fahrenheit.

The physician requested a consult by a gastroenterologist. An intravenous antibiotic, cefuroxime 750 mg IV every 8 hours, was used for 1 day. The patient was also treated with theophylline 300 mg 3 times daily. This was decreased to theophylline 300 mg twice daily at discharge.

A theophylline level was obtained and was below the therapeutic level. A chest x-ray showed a left lower lobe infiltrate that indicated a possible new acute process. The patient had a productive cough. A sputum culture and sensitivity was ordered but wasn't reported until after discharge. The WBC was elevated with a left shift. The patient was discharged without further treatment of an infection.

At home, she began coughing up green sputum and developed chest pain, fevers, chills and sweats. The patient returned to the hospital 4 days later in respiratory distress. Bilateral rales were noted. She was treated with steroids, antibiotics, inhalation bronchodilators and theophylline.

### Reviewer Comments

The IFMC reviewing physician determined the second admission was a continuation of the first episode; the first discharge was determined to be premature.

In this case, significant abnormal diagnostic findings were: 1) a possible new acute process in the left lower lobe, 2) an elevated WBC with left shift, 3) an abnormal sputum culture which was reported the day after dis-

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*'A theophylline level was obtained and was below the therapeutic level. A chest x-ray showed a left lower lobe infiltrate that indicated a possible new acute process. The patient had a productive cough.'*

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charge (preliminary report available on the day of discharge), and 4) a theophylline level below therapeutic levels.

The patient wasn't dismissed on antibiotics (intravenous antibiotics were used for only 1 day). Her theophylline dosage was reduced at discharge even though subtherapeutic blood levels were found.

The patient should have been stabilized on oral antibiotics and the culture and sensitivity evaluated. The subtherapeutic theophylline level should have been addressed and the dosage adjusted accordingly. The physician should have followed up with chest film to assess the patient's progress prior to discharge.

According to HCFA guidelines, this is determined to be a quality concern with an assigned severity level III.

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This article was written by Dennis Walter, M.D., an IFMC reviewer and past IMS president.

## Alternative to Nursing Homes

**"I** GUESS IT'S A NURSING HOME for Mom and Dad." How many times have you heard this statement from the son or daughter of one of your elderly patients? Family members often reach the conclusion that a nursing home is the only answer when elderly parents can no longer meet their personal care needs or "keep up the house." The family would like to help, but their days and nights are filled. Perhaps elderly parents won't accept help from their children. How do you respond?

Every county in Iowa has an agency that provides Homemaker-Home Health Aide (HHHA) services, a viable alternative to institutional care for many elderly. Homemaker-Home Health Aides are not nurses, cleaning ladies or babysitters. HHHAs provide services in the home that help elderly citizens control their daily routine.

HHHAs provide assistance with bathing and personal hygiene, laundry, light house-keeping, meal planning and preparation, running errands, helping with budgeting and money management and providing respite to the regular caregiver. Services are tailored to the needs. They don't replace help willingly being given by family and friends; they fill the gaps where things aren't getting done.

Most Homemaker-Home Health Aide services in Iowa are provided by the 105 local government and nonprofit agencies that subcontract with the County Boards of Supervisors for state funds. If the aide service is paid by Medicare or Medicaid, the aide must complete a competency evaluation process.

A call to the local agency will initiate HHHA service. Anyone can make this call: a physician, family, friends or the potential

client. An agency representative will visit the home of the potential client to complete a needs assessment. Referrals will be made to other service organizations, such as skilled nursing services, for evaluation when needed.

If it appears the applicant will benefit from HHHA service, a care plan will be developed with input from the applicant and/or family. The most appropriate funding source (Medicare, Medicaid, state funds, etc.) will be tapped, and the fee for service, if any, will be explained. All state-funded agencies are required to implement a sliding fee scale based upon the individual's income and resources.

The frequency and length of HHHA visits depends upon individual need: it may be as often as daily (for personal care or meal preparation) or as infrequently as once a month (when health problems prohibit the client from doing such tasks as running a vacuum cleaner).

The local agency providing Homemaker-Home Health Aide service can be identified by calling your County Board of Supervisors, the Area Agency on Aging, the local office of the Department of Human Services or the county public health nursing program. Information on local agencies is also available from the Iowa Department of Public Health, 515/281-6535.

In several Iowa counties, a case management program is operated through the Area Agency on Aging. This program, operated through the Department of Elder Affairs, provides screening and comprehensive needs assessments to persons 60 years of age and older who apply for services through a number of human service agencies. Coordination of services and "single entry point" access are the hallmarks of case management; avoidance of unnecessary, premature or inappropriate nursing home placement is the goal of the program.

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This information on public health matters is furnished and sponsored by the Iowa Department of Public Health.

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## College of Medicine Highlights

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**A NEW TEST TO MONITOR BLOOD CONCENTRATION LEVELS OF PROCARDIA** has been developed at the UI. Nifedipine enzyme immunoassay uses certain antibodies to measure the concentration of calcium channel blockers. The test, developed by **Howard Hughes Medical Institute investigator Kevin Campbell, physiology and biophysics**, will for the first time allow physicians to routinely confirm accurate dosage levels of Procardia.

**PEOPLE DIAGNOSED WITH "ENVIRONMENTAL ILLNESS," "20th century disease," or "multiple chemical sensitivity," may actually have a psychiatric disorder, reported Donald Black, psychiatry.** A study of 26 people diagnosed found that 65% met the criteria for a major mental disorder, including depression and anxiety disorders, as compared to 28% among control subjects of the same age and sex. The results of the study challenge physicians who specialize in "clinical ecology" to prove the existence of a separate disease as well as traditional practitioners to develop new approaches to treat people with vague symptoms.

**THE INCREASED USE OF INFECTION PRECAUTIONS** in the U.S. cost an estimated \$336 million, reports a study by **Richard Wenzel, epidemiology**. This first critical examination of infection guidelines issued by the CDC is based on a 5-year review of purchasing and supply records at UI Hospitals and Clinics. Adjusted for inflation, the cost of isolation materials increased by \$7.99 per admission and outpatient costs grew \$90 per 1,000 visits. Two-thirds of the cost was due to increased rubber glove use. Compliance with glove use recommendations in U.S. hospitals is 60-90%.

**THE DEFECT IN HUMAN CYSTIC FIBROSIS CELLS** in a laboratory culture can be corrected with gene insertion techniques, found researchers led by **Howard Hughes Medical Institute investigator Michael Welsh, internal medicine**. The success

of this technique shows that a therapy based on correction of the underlying defect is feasible. UI scientists collaborated on the project with researchers from Genzyme Corporation of Framingham, Massachusetts and Tufts University School of Medicine.

**GRANT NEWS.** . . . The first and only National Center for Voice and Speech has been established at the UI Colleges of Liberal Arts and Medicine with the award of a 3-year, \$8.5 million grant from the National Institutes of Health. The center, directed by **Ingo Titze and John Folkins, speech pathology and audiology**, will research protecting, rehabilitating and enhancing voice and speech. . . . The Arthur D. Steffee Endowed Professorship for Spine Research is being established through a \$500,000 pledge to the UI from the AcroMed Corporation of Cleveland, Ohio. The position is named for Dr. Arthur Steffee, one of the country's leading spine surgeons. . . . Assets from a 20-year trust fund established by Cecil S. O'Brien, former head of ophthalmology, and his wife Lillian are funding a new center for the study of macular diseases. **James Folk and Edwin Stone, ophthalmology**, will coordinate the center's efforts to determine the causes of and develop new methods for treating age-related macular degeneration. . . . Research laboratories used in studying the pathology of brain and nervous system diseases are being more than doubled in size thanks to a \$655,000 award from the National Heart, Lung and Blood Institute. The expansion will allow scientists to conduct more sophisticated research, attract high quality faculty and train more students in the neurosciences.

**DR. PAUL A. POMREHN, JR.,** has been appointed associate dean for student affairs and curriculum for the College of Medicine. He succeeds **Dr. Charles Helms, internal medicine**, who has resumed teaching and research duties. Pomrehn, **Preventive Medicine and Environmental Health**, has been a faculty member since 1980.

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This material is furnished by the U. of I. Health News Service.



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## About Iowa Physicians

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**Dr. N. K. Pandeya** of Cosmetic Surgery Center of Des Moines, P.C., has been named Military Consultant for Plastic Surgery, United States Air Force. Dr. Pandeya is a colonel in the U.S. Air Force Medical Corp. and commander of the 132nd TAC Hospital in Des Moines. **Dr. Douglas Weedman** has joined the staff of Family Medicine Clinic of Onawa. Dr. Weedman received the M.D. degree from the University of Nebraska College of Medicine, Omaha, Nebraska and most recently practiced in Las Vegas, Nevada. **Dr. Eugene Lister** has retired after practicing medicine in the Dallas Center area for 40 years. Dr. Lister received the M.D. degree at the U. of I. College of Medicine and interned at Iowa Lutheran Hospital, Des Moines. Clinton County Medical Society has elected new officers for 1991-92: **Dr. Ronald Vidal**, president; **Dr. Jay Ginther**, vice president; **Dr. Xerxes Colah**, secretary-treasurer. **Dr. Richard Strickler**, formerly of Fontanelle Medical Clinic, has joined **Dr. De Regnier** at the Madison County Medical Associates office in Winterset. New officers of the medical staff at North Iowa Medical Center are as follows: **Dr. Shivaram Shetty**, president; **Dr. Phillip Lee**, president-elect; **Dr. Bradley Isaak**, secretary-treasurer. **Dr. Patrick Ryal**, Nora Springs, has been named a fellow of the American Academy of Family Physicians. **Dr. James Oggel**, Sioux City, has been elected president of the Iowa Society of Allergy and Immunology. **Dr. Loren Olson**, medical director of psychiatry at Iowa Methodist Medical Center in Des Moines, recently completed an advanced professional management education program at the American College of Physician Executives' 1990 National Institute in Hilton Head, South Carolina. The following physicians were elected officers of the Stewart Memorial Community Hospital staff in Lake City: **Dr. Donald Skinner**, president; **Dr. David Archer**, vice president; **Dr. Philip Zimmerman**, secretary. **Dr. Russell Watt**, Marshalltown ophthalmologist, has been awarded certification in the subspecialty field of cataract/implant surgery from the American Board of Eye Surgery. **Dr. Mi-**

**chael Lindstrom**, Mason City, was recently named a diplomate of the American Board of Family Practice. The following surgeons were called to active duty in the Gulf War: **Drs. Anson Yeager, Jr., Thomas Carlstrom, Kendall Reed and Eugene Cherny**, all of Des Moines; **Ricky Wilkerson**, Spencer; **David Arnold**, Davenport and **Y. Don Joo**, Clarinda. **Dr. Donald Nelson**, Cedar Rapids, was recently selected as the Iowa Academy of Family Physicians Educator of the Year for his work in the Cedar Rapids residency program. Dr. Nelson is the director of the ob/gyn curriculum in the program. The following physicians have been elected to the Park Clinic board in Mason City: **Dr. Mark C. Johnson**, chairman, **Dr. Michael W. Crane**, vice chairman and **Dr. Bohdan K. Wasiljew**, secretary/treasurer. **Dr. Samuel D. Porter**, of St. Joseph Mercy Hospital in Mason City, has been selected for inclusion in *Who's Who in Health & Medical Services*, 1990 edition. Dr. Porter was first recognized in the 1969 edition of *Who's Who*. **Dr. Jack Consamus** was recently appointed medical director of Davenport's St. Luke's Hospital laboratory. The following physicians have been elected to the medical staff board at Iowa Lutheran Hospital, Des Moines: **Dr. Larry Heller**, chief, **Dr. Larry Baker**, chief-elect, **Dr. David Baridon**, secretary, **Dr. Gregory Smith**, treasurer. **Dr. Leopoldo Delucca**, Fort Dodge, has been included in the first edition of *Citation's Who's Who Among Rising Young Americans*, 1991 edition. **Dr. Paul Ferguson**, Lake City, was recently elected to the board of directors of the Iowa Association of Long-Term Care Facilities Medical Directors. **Dr. James Potter** and **Dr. Allan Swanson** have joined the Park Clinic in Mason City. Dr. Potter received the M.D. degree from Creighton University School of Medicine, Omaha, Nebraska and completed his residency at Fitzsimmons Army Medical Center, Aurora, Colorado. Dr. Swanson received the M.D. degree from California College of Medicine, Los Angeles, California and completed a residency at

*(Continued next page)*

Los Angeles County General Hospital. **Dr. Edward Jacobs**, Marshalltown family practice physician, has retired after nearly 40 years of medical practice. Dr. Jacobs received the M.D. degree from the U. of I. College of Medicine and interned at St. Luke's Hospital in Spokane, Washington. **Dr. Peter Wallace** has been elected president of the medical staff at Mercy Hospital in Iowa City. Dr. Wallace practices with Pediatric Associates in Iowa City. Other officers include **Dr. Charles Hesse**, president-elect and **Dr. Ferial Tewfik**, secretary. **Dr. Susan Sieh** has joined the Park Clinic Women's Health Center in Mason City. Dr. Sieh received the M.D. degree from the Emory University School of Medicine, Atlanta, Georgia and completed a residency at the U.S.A.F. Regional Hospital at Carswell Air Force Base, Fort Worth, Texas. Dr. Sieh formerly practiced in Lincoln, Nebraska.

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## Deaths

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**Dr. Thomas E. Shonka**, 81, Red Oak, died February 7 at Montgomery County Memorial Hospital, Red Oak. Dr. Shonka received the M.D. degree from Creighton University School of Medicine, Omaha, Nebraska and completed a residency at Mercy Hospital, Council Bluffs. He practiced medicine in Malvern and Clarinda until his retirement in 1979.

**Dr. Arline Beal**, 93, Davenport, died February 13 at Crest Health Care, Davenport. Dr. Beal received the M.D. degree from Women's Medical College, Philadelphia, Pennsylvania and interned at Southside Hospital, Pittsburgh, Pennsylvania. She practiced medicine in Davenport for 29 years, retiring in 1967.



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## Viable Communities Can Still Attract Physicians

*Editor's Note: Paul Seeborn, M.D., consultant to the dean of the UI College of Medicine, is this month's guest author.*

**F**OR SOME TIME HEALTH ISSUES in rural Iowa have been in the public forum. Access to health care, reduced reimbursement for services and shortages among health professionals are the principal problems.

From a demographic, economic, health and welfare standpoint many counties are "sick," but there are many more that are "well." Most of the "sick" counties and many of the "well" counties are rural. The well counties have hospitals, physicians and health professionals with capacity to provide health care for the citizens of their principal towns and surrounding populations. It is not accurate to stereotype all of rural Iowa as being in trouble. Many areas are not underserved medically, nor on an economic decline.

Fortunately, there has been a steady supply of family physicians with an interest in rural community practice coming out of the educational pipeline. The 18th annual report of the statewide family practice residency program shows continuing interest of University of Iowa graduates in family practice. Its 4-year average of 21.4% of graduates entering family medicine residencies ranks the UI College of Medicine first among colleges graduating 100 or more students a year, and is more than twice the national average of 10%. The 16-year average for retention of the graduates of the family practice residency in Iowa is 59%. Nearly half of these physicians chose practice sites in communities with populations under 10,000. Additionally, 150 family physicians who have

trained in other states have been attracted to practice in Iowa. Since 1977 the number of family physicians entering practice annually has averaged around 70.

However, a substantial number of family physicians have left practice. The faltering economy, poor medical liability climate and unfavorable reimbursement led to a peak in losses in the mid 1980s. However, the professional environment in Iowa shows clear signs of improvement. In 1990 the loss of family physicians was the lowest since 1982, leading to a net gain of 5 family physicians for the first time since 1984. With these reports of physician production and rural orientation, supply cannot be the principal problem with physician distribution in this state. Economically progressive communities of 5,000 population and above can attract newly trained family physicians.

For lesser populated areas medical branch offices have emerged to provide a new source of medical services. Over 200 branch offices are now in place at remote rural sites.

It is obvious that all the problems associated with physician manpower and distribution have not been solved. Nevertheless the foundation for the production of physicians oriented to the needs of Iowa is established and working. The regional networks and new physicians are available to viable communities, but it is unlikely hospitals and/or physicians can solve the problems of economically and socially ailing communities.

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April 1991

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Iowa Medicine

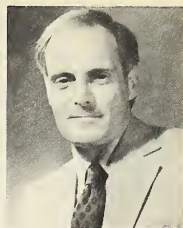


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## President's Privilege

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Robert D. Whinery, M.D.



## It's Been a \_\_\_\_\_ Year!

**W**HAT CAN I PUT THERE? Fun, yes . . . challenging, yes . . . stimulating, busy, educational, frustrating, rewarding, time consuming — yes to all these. One thing for sure, my year as IMS president has passed very quickly.

As a society we've done our business. We've been fiscally responsible and legislatively involved. IMS committees have been extremely active. A few potentially adverse developments have been averted and some good things added. It's been a special joy to occupy the new headquarters building.

My sincere thanks to the excellent IMS staff. Their accomplishments are outstanding in Iowa and are recognized nationwide. A huge thank you goes to the many Iowa physicians who have given much time and effort on the numerous IMS committees. I hope that in the future even more of you will be

involved so we won't have to rely on some to do multiple jobs.

Few of us realize the tremendous political and public relations contributions of our outstanding Iowa Medical Society Auxiliary. To all of you, also, many thanks.

The rewards of medical society service are tremendous. I earnestly recommend each of you give it a try. You'll be glad you did.

We are extremely fortunate to have a bright, levelheaded, dedicated leader in Bruce Trimble as our next president and I wish him the best.

Thanks for the memories!

*Robert D. Whinery, M.D.*

Robert D. Whinery, M.D.  
President

# What's New in Dermatology?

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*The authors discuss developments in dermatology, including a new drug for non-responsive acne and outpatient treatment of severe psoriasis.*

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## New Topical Agents

MARY SEABURY STONE, M.D.

New topical preparations for common skin problems have become available in the past several years. These new agents include topical metronidazole for rosacea, permethrin for scabies, ketoconazole for seborrheic dermatitis and capsaicin for post-herpetic neuralgia.

Acne rosacea is fairly common in adults, manifested by facial flushing, telangiectasia and inflammatory papules and pustules. Rhinophyma is a particularly disfiguring sequelae of rosacea and is more common in men. A helpful differentiating feature from acne vulgaris is a lack of comedones in acne rosacea. Although medication is usually not particularly helpful for flushing, the inflammatory lesions of rosacea respond to oral antibiotics such as tetracyclines or erythromycin. Although sulfur in combination with hydrocortisone is a useful topical preparation in this disorder, prolonged steroid application to the face may result in worsening of the telangiectatic component.

A new and very effective topical preparation is available for rosacea — topical metronidazole (Metrogel®). Applied twice a day, Metrogel® may allow avoidance or discontinuation of oral agents in many patients.

Reports of failure of scabies to resolve after treatment with lindane (Kwell®) have been increasing. A new topical scabies treatment, 5% permethrin (Elimite®) is now available. It should be applied from head to toe, including the scalp in infants, and should be washed off in 8-14 hours. As with lindane treatment, all contacts must also be treated, symptomatic or not, to prevent re-infection. Success rates of 91% after a single treatment of permethrin are reported. The drug is poorly absorbed through the skin, rapidly inactivated and readily excreted. It is felt to be safe for use in infants and in pregnancy, a point of concern with lindane therapy.

*Pityrosporum ovale* is important in the pathogenesis of seborrheic dermatitis. Most antiseborrheic shampoos contain selenium sulfide or zinc pyrithione and work largely by the action of these compounds on *P. ovale*. Topical ketoconazole (Nizoral®) in both a cream and shampoo has become available for treatment of seborrheic dermatitis. The cream is used daily; the shampoo is recommended to be used twice weekly. Topical ketoconazole may be used alone in mild cases of seborrheic dermatitis or in combination with topical steroids for severely affected individuals.

A topical medication is available for post-herpetic neuralgia. Topical capsaicin (Zostrix®) works by depletion of substance P. Zostrix® is applied 4 times daily and is to be used only to intact skin. It is not to be used for pain associated with the acute episode of zoster. Due to release of substance

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The authors are associated with the University of Iowa Department of Dermatology. The article was edited by Duane Whitaker, M.D., director of dermatologic surgery and secretary-treasurer of the Iowa Dermatologic Society.

P, many patients will experience burning with application, but this decreases with continued use. Significantly diminished pain has been reported in 75% of patients with post-herpetic neuralgia after 4 weeks of use.

## Management of Congenital Melanocytic Nevus

ELAINE SIEGFRIED, M.D.

Guidelines have been created to standardize the evaluation of congenital pigmented nevi. This nevus is present at birth and has a characteristic architecture of melanocytes in the dermis which may extend into the subcutis. The guidelines divide the nevi into 3 categories according to size during infancy: small lesions, measuring less than 1.5 centimeters in diameter, occur in approximately 1% of neonates; large lesions, measuring 20 centimeters or greater in diameter, are said to occur in 1 in 20,000 neonates; medium lesions by definition range from 1.5 to 20 centimeters. Clearly some large congenital nevi are pre-malignant. Data implicating the small congenital nevus as a melanoma precursor are highly controversial.

The incidence of melanoma is increasing faster than any other cancer. The baseline lifetime risk of developing malignant melanoma has increased from 1 in 1500 for a child born in 1935 to nearly 1 in 100 today. Malignant melanoma, if detected early, is curable in up to 98% of cases with excisional surgery.

This 1% lifetime risk of melanoma appears to be increased in patients with large congenital nevi to 5-25% over a lifetime. Malignant transformation seems to occur in a bi-modal pattern, either prior to age 3 or following puberty. We have no way to know which of the 25% or less will degenerate into malignancy. Because of obvious ethical reasons, long-term prospective studies with a no-treatment arm will never be done.

The risk, if any, of malignant transformation of small-to-medium sized congenital nevi is even less clear-cut. What is rational management for congenital melanocytic nevi? At the University of Iowa, our approach to patient management is individualized.

Other pigmented "birthmarks" must be distinguished from melanocytic nevi. Each lesion is carefully assessed and measured. If a lesion is suspicious for melanoma or the diagnosis is in doubt, a biopsy is obtained.

Patient and family are educated about potential risk for melanoma with congenital melanocytic nevus. All patients are taught self examination of the skin. Prophylactic excision is explained and discussed with all patients.

Any patient with a family history of melanoma, Dysplastic Nevus Syndrome, or other identified risk for melanoma is given higher consideration for prophylactic removal of the congenital nevus. Further workup and assessment of the patient is individualized. Assessment to document the extent of disease will be critical for proper followup and care of the patient. We do not recommend laser therapy, radiation therapy, dermabrasion or other incomplete destructive techniques since the histology is lost and there is no indication these decrease the risk of melanoma.

## Graft-versus-Host Disease

THOMAS RAY, M.D.

We usually consider graft-versus-host disease (GVHD) a consequence of allogeneic bone marrow transplantation. Yet, we have become aware GVHD can occur following blood and blood product transfusions. Seen mostly in immuno-compromised patients, transfusion-associated GVHD manifests as a morbilliform (exanthem-like) erythema that begins in the skin over the upper trunk, spreads peripherally and progresses in a few days to generalized erythroderma. The palms and soles may be prominently involved.

Differentiating cutaneous features of GVHD from a transfusion reaction, viral exanthem or drug eruption may be very difficult until the associated fever, anorexia, nausea, profuse diarrhea, elevated liver enzymes, icterus and progressive pancytopenia appear. Transfusion-associated GVHD culminates in marrow hypoplasia and is fatal in 90-95% of cases.

*(Continued next page)*

GVHD occurs if immunocompetent T lymphocytes (the graft) are given to individuals (the host) who are incapable of rejecting foreign grafts. They are usually immunocompromised patients with congenital immunodeficiency syndromes, hemolytic disease of the newborn, hematologic malignancies, some solid tumors or receiving aggressive chemotherapy or radiation treatment. Hodgkin's disease patients appear to be especially predisposed, but AIDS patients are not.

Whole blood, packed red cells, platelet, granulocyte and even fresh plasma transfusions can provide sufficient numbers of viable lymphocytes to cause this disease. This lymphocyte graft recognizes the host tissue as foreign, especially the skin, liver, gastrointestinal tract and bone marrow, and reacts against the host. Recently, transfusion-associated GVHD was reported in immunocompetent individuals (cardiac surgery patients, premature infants and single cases following cholecystectomy, child birth and cervical carcinoma).

Why some immunocompetent patients are at risk is not clear. It is evident that normal patients who share one HLA haplotype with an HLA-homozygous blood donor can develop GVHD following a transfusion from that donor. The host accepts the donor lymphocytes since they have the same antigens, but the donor lymphocytes react against the foreign antigens encoded by the other haplotype of the host cells. Although rare, this is more likely to occur in directed blood donations between first degree family members (especially from a child to a parent), but may also occur in some inbred populations that have common extended HLA haplotypes (Japan or Israel).

There is no effective treatment for established transfusion-associated GVHD. Gamma irradiation (15-20 Gy) of blood component transfusions is the only current recommendation. Patients suspected of being immunocompromised should be transfused only with irradiated blood products. Directed blood donations between first degree relatives should be similarly irradiated, as should blood products used for intrauterine transfusions. The differential diagnosis of all post-transfusion rashes should include consideration of transfusion-associated graft-versus-host disease.

## Outpatient Treatment of Severe Psoriasis

KATHI MADISON, M.D.

Psoriasis affects 1-3% of the population in westernized countries. Of patients who seek dermatologic care, about 30% require treatment more aggressive than topical medications. These treatment modalities include phototherapy, oral methotrexate and oral etretinate.

Phototherapy with ultraviolet B (UVB) light has been used for decades to treat psoriasis and remains a mainstay in the therapeutic armamentarium. Outpatient treatments are generally given 3 or more times weekly in order to clear the skin and may be followed by less frequent maintenance treatments. The use of the oral photosensitizing compound psoralen together with whole body exposure to ultraviolet A light (PUVA) to treat patients with extensive psoriasis was approved by the FDA in 1982. Outpatient treatments are generally delivered twice weekly until clearing is achieved and are followed by a gradually decreasing frequency of maintenance treatments. PUVA therapy requires patients protect their eyes with UVA-blocking glasses for an extended period of time following the ingestion of psoralen.

Both types of phototherapy require careful dosing of light and close patient followup. Long-term side effects include accelerated cutaneous aging and the risk of skin cancer. Patients who have psoriasis primarily involving the hands and feet can be treated using topical psoralen soaks followed by UVA exposure in a hand-foot phototherapy unit and avoid the need for extended eye protection.

Methotrexate is a very effective treatment for severe psoriasis when given as a single weekly oral dose of 10-20 mg. Although this dose is far less than that generally used in cancer chemotherapeutic protocols, serious side effects can occur and patients must be carefully evaluated before and during therapy. The most serious long-term side effect is hepatotoxicity. Liver biopsy has been the only reliable method for detecting methotrexate hepatotoxicity; biopsies are generally performed before or



shortly after beginning treatment and after every 1.0-1.5 grams of methotrexate taken by the patient.

Etretinate is a synthetic vitamin A derivative (retinoid) available for oral use in the United States since 1986. It is dramatically effective in the pustular and erythrodermic varieties of psoriasis but is also helpful for treatment of severe plaque-type psoriasis. Mucocutaneous side effects include chapped lips, dry nasal mucosa, eye irritation, skin fragility, hair loss and peeling of palms and soles. Side effects of more concern during long-term use are hyperlipidemia and the development of skeletal hyperostosis. Etretinate is a potent teratogen with a very long elimination half-life and therefore must not be used to treat women of child-bearing potential.

## Pulsed Dye Laser Treatment for Port Wine Stain Birthmarks

DUANE WHITAKER, M.D.

Port wine stains or *nevus flammeus* occur in about 3 per 1000 births. Nevus flammeus is a congenital vascular malformation of the dermis. At birth there is no subcutaneous component or alteration in the contour and texture of the dermis itself. Nevus flammeus which occur at the nape of the neck ('stork bite') usually vanish with time. Other nevus flammeus are usually present for a lifetime. These may vary in color from light pink to dark red. As patients grow into adulthood, the lesions may hypertrophy and nodular lesions may arise.

For patients with facial port wine stains, Sturge-Webber Syndrome and vascular malformations which extend into deeper tissues must be ruled out. Sturge-Webber is a constellation of findings which includes nevus flammeus (commonly of the ophthalmic distribution of the trigeminal nerve), glaucoma, mental retardation and seizures. The majority of patients with nevus flammeus, however, are normal except for the vascular birthmark. Numerous treatment modalities including XRT, cryosurgery, excisional surgery, electrosurgery and tattooing have all been used with unsatisfactory results. Cos-

metics will cover most port wine stains. However, many patients find this unsatisfactory.

The pulsed dye laser at 577 and 585 nm. provides the most satisfactory treatment to date. Both argon and CO<sub>2</sub> laser have been used in the past. However, scarring, depigmentation and texture changes can occur with these lasers.

With the tunable dye laser, we have found that nearly all port wines are improved and there is less than 1% risk of scarring or depigmentation. While there is some discomfort associated with the treatment, most adults require no anesthesia or sedation for the procedure.

The immediate result of treatment is bruising of the skin which resolves over a period of several weeks. There is no wound per se and therefore no time is lost from work or school. The laser light is absorbed in vascular tissue and injury to the remainder of the dermis is nil. Patients usually have no change in texture of the skin.

## Sweating Problems

KENZO SATO, M.D., PH.D.

Too much sweating (hyperhidrosis) causes discomfort and inconvenience to patients and can impair their social and occupational activities. It can also be an initial sign of systemic illness. Too little sweating (hypohidrosis or anhidrosis) is potentially life-threatening, especially in warm environments or during physical activities.

Diagnosing the causes of abnormal sweating involves teamwork by dermatologists, neurologists, neurosurgeons, internists, pathologists, physiologists and radiologists.

The most common sweating problem we encounter in the University of Iowa Dermatology Clinic is hyperhidrosis of the palms and soles. Although the exact cause of such emotional sweating is unknown, we are now offering a comprehensive training program to teach patients to treat this problem at home. The therapeutic modality is called "tap water iontophoresis" and its safety and efficacy have been well established.

(Continued next page)

Excessive sweating of the axillae is now successfully treated with a topical aluminum chloride solution without surgical removal of axillary skin.

Diagnosis of sweating problems often requires a careful history and physical examination, mapping of the skin area with spontaneous sweating or lack of sweating, study of the sweating responses to thermal and pharmacological stimuli, skin biopsy, neurological examination of sensory, motor and automatic function, determination of body temperature, x-ray examination, CT scan or MRI.

In our experience, patients referred for examination of excessive "generalized" sweating rarely show increased sweating over the entire body surface. They are likely to have segmental or localized sweating sufficient to soak the garment. Mapping the sweating area is an indispensable part of the initial examination. Excessive sweating can be an early sign of systemic illnesses or internal cancers or tumors.

## Cutaneous Lymphoma

WARREN PIETTE, M.D.

Extracorporeal photopheresis (extracorporeal photochemotherapy, ECP) is a new approach to the treatment of cutaneous T-cell lymphoma and has the potential for alternative therapy in a number of autoimmune diseases. This technique represents a hybrid of more standard psoralen and ultraviolet-A therapy (PUVA therapy) used for diseases such as psoriasis and cutaneous T-cell lymphoma and the leukapheresis procedures long available in hospital blood bank centers.

A patient receiving ECP therapy is administered a dose of 8-methoxypsoralen orally which is known to yield an adequate serum level. The patient is connected by an intravenous catheter to a modified photopheresis machine, which separates and concentrates the buffy coat from the patient's blood and recirculates the buffy coat through a special chamber where it is irradiated by controlled ultraviolet A light.

The remaining blood fractions of plasma and red cells are returned to the patient in a cycled fashion, without exposure to ultravi-

olet light. After 5 cycles of buffy coat separation and irradiation, the buffy coat is also returned to the patient. The 2 consecutive days of treatment constitute a treatment cycle; patients will ordinarily receive additional cycles at 4 to 5-week intervals.

This therapy appears to be most useful in the Sezary syndrome variant of cutaneous T-cell lymphoma (CTCL), but may also aid patients with other treatment-resistant forms. Patients with Sezary syndrome usually experience total body erythema, intolerable burning or pruritus and increased atypical lymphocytes in the peripheral blood. Sezary syndrome has been very resistant to usual therapies for CTCL, but many patients have responded to ECP, some dramatically.

Leukapheresis of Sezary syndrome patients does not yield similar results, suggesting ECP is not simply killing the malignant cells. Experimental results in animal studies suggest antigen-specific immune modulation may be occurring with this form of treatment. CTCL is the only FDA-approved indication for this treatment, but initial studies suggest some benefit in selected patients with progressive systemic sclerosis and in pemphigus vulgaris. A very preliminary study in 5 HIV-infected patients was recently published, but a larger study is needed.

## Treating Acne with Oral Retinoids

JOHN STRAUSS, M.D.

Oral retinoids have revolutionized the treatment of acne patients who previously were considered totally recalcitrant to any form of therapy. However, there have been significant problems related to the toxicity of oral retinoids.

13-cis-retinoic acid (isotretinoin) (Accutane®), given orally, has a marked inhibitory effect on sebaceous gland function. It also may inhibit follicular keratinization, indirectly inhibits follicular bacterial growth and has an anti-inflammatory effect. Though long-lasting remissions have been induced in patients with severe, highly inflammatory, treatment-resistant acne, this drug should be approached with extreme caution because of its toxicity pattern.

Every patient given Accutane® will develop some evidence of chronic hypervitaminosis A toxicity. The most common changes associated with chronic hypervitaminosis A are integumentary, including cheilitis, dry skin, fragility of the skin, dry mucous membranes, an ill-defined dermatitis and hair loss. Systemic side effects include elevated serum triglycerides accompanied by decreased high density lipoproteins, bony hyperostoses, pseudotumor cerebri, ocular changes and a host of central nervous system changes.


The most serious side effect is the teratogenic effect of this drug. This is not unique to isotretinoin, but is common in all oral retinoids given in comparable dosages. The effect is on early organogenesis; therefore, peak effects occur around the third week of gestation. Retinoic acid embryopathy involves the central nervous system, the auditory system, the craniofacial bones, the major blood vessels and the thymus. Isotre-

tinoin therapy is absolutely contraindicated in women of childbearing potential unless the patient is fully protected with effective birth control techniques. The patient must be fully informed about the dangers of pregnancy. If there is any question the patient will not, or cannot, practice absolute birth control, the drug must not be given. Birth control must begin at least one month before the drug is started and continued for at least one month after the drug is stopped. Patients must be seen on a monthly basis to check for pregnancy and to provide continued counselling on birth control.

This drug should be reserved for those who do not respond to any other form of therapy and should not be administered by those who are not fully knowledgeable about its many side effect patterns.

### References

References are available from the University of Iowa Department of Dermatology.



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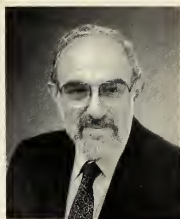
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John Strauss, M.D.



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# Dermatologists Have Forum For Concerns, CME Activities

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*The author, president of the Iowa Dermatological Society, discusses that organization's goals and concerns.*

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### **What is the picture with regard to the supply of dermatologists?**

There are close to 8,000 dermatologists in practice in the United States. This represents approximately 2% of all U.S. physicians. Fifty-five members of the Iowa Dermatological Society are in active practice in the state. Since a dermatologist needs approximately 20,000 individuals in their catchment area to maintain an active practice, dermatologists are clustered in the larger cities of Iowa.

Manpower studies have shown that the number of dermatologists finishing training each year (approximately 275-300) is very close to the replacement needs of the specialty.

### **What recent technological and scientific advances have affected the specialty?**

During the last few years, there has been a marked increase in the dermatological surgical experience in most residency training programs. This is reflected by a large increase in the number of members of the American Society for Dermatologic Surgery, which now

is the second largest dermatologic organization in the United States. Many recent advances relate to improved surgical approaches to skin cancer, particularly related to micrographically controlled surgical excision of large skin cancers.

In addition, there have been major changes related to the use of new therapeutic agents. The use of oral retinoids for the treatment of severe, recalcitrant acne, severe psoriasis and other diseases of keratinization, along with their potential use as chemopreventive agents for skin cancer, has had a significant impact on the practice of dermatology.

Immunomodulators represent another extremely important group of drugs that have extended the therapeutic armamentarium of dermatologists. Not only have these drugs proved superior in the management of recalcitrant skin diseases but they have opened up new avenues for the exploration of the pathogenesis of various dermatologic diseases.

### **What socioeconomic developments have influenced the practice of dermatology?**

Dermatology is almost totally outpatient oriented. Major inpatient care is almost always delivered in the larger medical centers. With the advent of managed care, we are very concerned about the potential impact of gatekeeper systems. While dermatologists are not

*(Continued next page)*

officially classified as primary care physicians, in actuality the delivery of dermatologic care has always involved the concept of primary care with direct access of the patient to the dermatologist. The insertion of another layer of control could have an adverse impact on the delivery of dermatologic care.

### What are the concerns and goals of the Iowa Dermatological Society?

Our goal is to provide a forum to discuss issues of concern to the dermatologists in Iowa and to provide a CME base for our members so they can keep abreast of the changes in the delivery of appropriate dermatologic care. This has been accomplished through the excellent continuing medical education programs of the semiannual meetings of the society.

### What developments in the field of dermatology most interest you personally?

My own interests over the years have centered around the pathogenesis and treatment of acne vulgaris. The studies by those associated with me over the years have played a major role in the understanding of hormonal therapy, antibiotic therapy and oral retinoid therapy in the management of acne. Our group has outlined the appropriate conditions for use of various therapeutic agents. During the last decade our major efforts have been related to use of oral retinoids for management of severe, recalcitrant acne. This is discussed in the "What's New" section of this issue.

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**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.<sup>1,3,4</sup> 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.<sup>3</sup>

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#### References:

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological Basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27-2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 126: 45-47, 1982.

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# Skin Cancer: Diagnosis and Management

DUANE WHITAKER, M.D.  
Iowa City, Iowa

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*Patients at highest risk for skin cancer, current treatments and educational efforts are discussed.*

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CUTANEOUS MELANOMA WILL ACCOUNT FOR approximately 3% of all new cancers in Iowa in 1991. Many tumor registries do not collect data on non-melanoma skin cancer (NMSC) and therefore the data of 4,000-6,000 non-melanoma skin cancers yearly in Iowa is not well known. While there is less mortality associated with NMSC than melanoma, it is a cause of considerable morbidity. Patients with NMSC can have significant loss of function from tumors as well as severe scarring and deformity.

Tumors overlying nerve, facial musculature, major vessels and lymphatic chains of the face and neck present greatest risk. Loss of facial nerve function, invasion into bone or cartilage and parotid gland involvement also

present major risks. Of particular risk are NMSCs which have failed previous attempts at treatment. The best opportunity for cure of cancers amenable to surgery lies in the first therapeutic attempt. Failed therapy (surgery, destructive techniques or radiation) appears to weaken normal tissue planes of resistance to tumor and may convert cellular and stromal patterns into more aggressive and atypical growth.

In 1990, 330 melanoma patients were seen at University of Iowa Hospitals and Clinics (UHC). Non-melanoma skin cancer seen at UHC during 1990 involved 1700 patients. The dermatology department works closely with other departments such as orbital oncology-occuloplastics; otolaryngology-head and neck surgery; plastic and reconstructive surgery and surgical oncology. Patients who have large neglected or recurrent tumors in vital locations require a team approach. With this multispecialty approach, over 90% of NMSC patients undergo successful resection and cure.

## Risks

The major risk factors for all types of skin cancer are ultraviolet light (UVL) radiation and genetic skin type. UVL either from natural or artificial sources is the major known initiator of skin cancer. Patients who are immune suppressed (e.g., organ transplants or individuals on immune suppressives) and xeroderma pigmentosum patients are dramatic examples of

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the role UVL plays as the initiator of oncogenesis. However, we need only to look at the daily clinical practice to see the UVL effect on normal skin.

In general, skin cancer is a disease of light skinned people. Melanoma and other skin cancer is rare in black or brown skinned individuals. Individuals at greatest risk for skin cancer are light-complexioned with blue or blue-green eyes, people who tan poorly and those with blonde or reddish hair. The ancestry of this high risk group is often northern European, Celtic and Scandinavian. Both total UVL dose over time as well as severe sunburns appear to increase skin cancer risk. Children's skin may be more susceptible to solar injury.

### **Educational Efforts**

Educational efforts regarding skin cancer should involve persuading patients to decrease sun exposure, avoid sunburns and seek skin examinations from their physicians. Patients need to know features of sun-sensitive skin and what to look for in self-examinations.

In the clinical situation, the recognition and diagnosis of melanoma are not always straightforward. All melanomas do not appear as obvious black tumors. An appreciation of the normal range of topographical skin features and of pigmented lesions is helpful.

Nevi commonly known as 'moles' are benign collections of melanocytes. To meet all the criteria for benignity, moles should be: 1) symmetrical in outline, 2) fairly distinct in margination or border, 3) comprised of only one color i.e., minimal variation in hue, and 4) 6 millimeters or smaller in diameter (can be covered by a pencil eraser). Pigmented lesions that exceed these general descriptions mandate further examination. Melanoma often presents as only a dark brown, reddened, grayish or bluish macule. A nodule or elevation from the skin is not always present. Since melanomas can be seen at various stages, they frequently are no larger than a centimeter in diameter and occasionally smaller. Suspicious lesions can be examined under magnification, carefully measured, and when in doubt, consultation or skin biopsy obtained. This combination of patient education, sun avoidance and skin surveillance along with periodic examination could greatly reduce the incidence of skin cancer and make those that occur have a better prognosis.

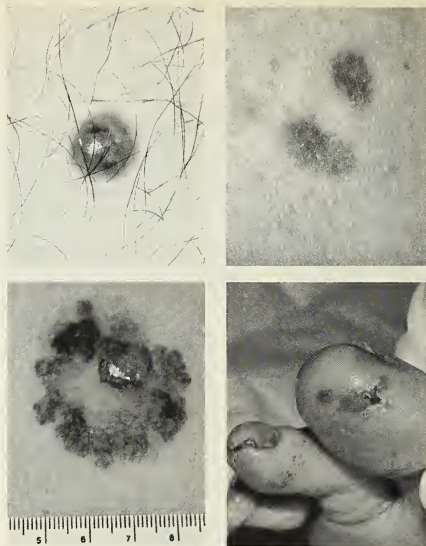


Figure 1. Photo A (bottom left) Melanoma with a macular and nodular component; Photo B (top left) Bluish black pigmented basal cell carcinoma; Photo C (top right) Patient with dysplastic nevus syndrome and familial melanoma; Photo D (bottom right) Melanoma of plantar surface of the great toe.

### **Pigmented Lesions**

Figure 1 shows 4 pigmented lesions of the skin. Lesions A through C are on the trunk. Lesion D is on the plantar surface of the right great toe. Since pigmented lesions present difficulties in evaluation and diagnosis, each clinical photograph makes a specific point. Photograph 1A is a classic melanoma with a flattened or macular component and an eccentrically placed nodule in the lesion. This obvious melanoma was variegated in hue and over 3 centimeters in diameter.

Photograph 1B shows a rounded bluish nodule with flecks of darker pigment. This lesion was on the trunk of a light-complexioned patient with blue eyes and blonde hair. The nodule was semi-translucent and measured about a centimeter in diameter. Biopsy confirmed the diagnosis of a pigmented basal cell carcinoma. This tumor of the trunk is treated effectively without wide margin surgery, which



would be indicated for melanoma. The clinician should consider a wide differential diagnosis and insure that a biopsy is obtained prior to any treatment plan.

The patient in Photograph 1C had many similar lesions over the trunk and proximal extremities. This patient had a family history of melanoma. Biopsy of the upper lesion showed melanoma *in situ* and the inferior lesion was interpreted as a dysplastic nevus with moderate dysplasia. This patient had dysplastic nevus syndrome. Examination of these pigmented macules reveals characteristics of both benign and malignant lesions. Such patients require education regarding the increased risk for melanoma, regular followup for skin surveillance and examination of family members. Full body photographs as a permanent part of the medical record are very useful for the care of such patients.

We would generally not expect to see melanoma on palmar, plantar or genital areas, but it can and does occur. Photograph 1D is an example of a melanoma on the plantar surface of the great toe. This type of melanoma can even occur under the nail of the digits. Acquired benign nevi on plantar and palmar surfaces are distinctly uncommon. Clinicians should therefore be suspicious of all pigmented lesions on these body areas.

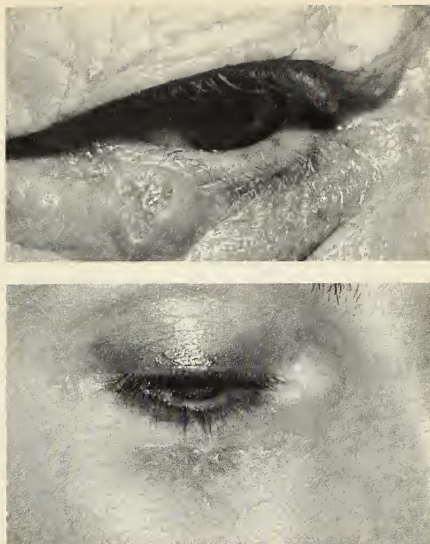
### **Non-Melanoma Skin Cancer**

Ninety percent of non-melanoma skin cancer lesions occur on the head and neck. In general patients seek medical consultation for facial lesions earlier than for other regions of the body.

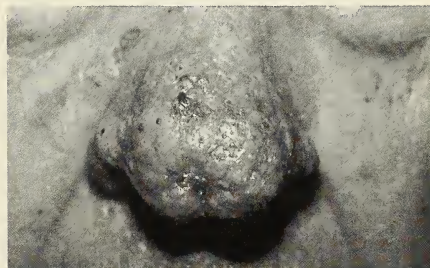
Figure 2 depicts basal cell carcinoma of the lower eyelid. The upper figure shows an older patient with a nodular lesion that is slightly eroded in the center. This nodule strongly suggests the diagnosis of basal cell. Biopsy was confirmatory. We expect to see basal cell carcinomas in older patients and therefore have a higher index of suspicion.

Panel B shows a much younger individual without a nodule or ulceration. However, there is a diffuse mat of telangiectasia and a distinct pearly aspect to the center of the lesion which is also indicative of basal cell carcinoma. Biopsy was confirmatory. These photographs remind us that like melanoma, non-melanoma skin cancer can occur at any age.

The patient in Figure 3 has an enlarged bulbous nose. Differential diagnosis would in-



**Figure 2.** Photo A (top) Basal cell carcinoma with pearly margin on lower eyelid of older patient; Photo B (bottom) Young patient with telangiectatic mat and basal carcinoma of lower eyelid.



**Figure 3.** Squamous cell carcinoma infiltrating bulb of nose.

clude rhinophyma, enlargement of the sebaceous glands of the nose and skin cancer. Biopsy revealed squamous cell carcinoma arising from the skin of the nose and penetrating intranasally along the septal tissue. Squamous cell carcinoma of the nose and lip can be aggressive. There must be a high index of sus-

*(Continued next page)*

picion when presented with nodular lesions of these areas.

Recurrent facial skin tumors may be difficult to diagnose and manage. The patient in Figure 4 has recurrent basal cell carcinoma of the left lateral zygomatic region following surgical resection. The patient has an abnormal scarring reaction with ulceration and contraction around the tumor site. Biopsy confirmed the diagnosis and the patient underwent extensive microscopically controlled surgery followed by reconstruction.

A serious tumor with subtle clinical features is angiosarcoma of the forehead and scalp shown in Figure 5. This photo shows an ill defined ecchymotic change with some areas of erosion. Biopsy demonstrated pronounced atypical vascular proliferation and other changes found in angiosarcoma. Unfortunately, because of its subtlety, this tumor is often widespread by the time of diagnosis. Persistent ecchymoses in the same location with ulceration or nodularity suggests angiosarcoma.

### Summary

Patients should be encouraged to adopt sun protective habits and have new or changing skin lesions evaluated promptly. Physicians should thoroughly examine all of the skin and be prepared to assess individual risks for skin cancer. When the issue is in doubt, skin biopsy or a more detailed examination by a skin specialist is recommended. Educational campaigns directed toward prevention and early detection of skin cancer can greatly reduce the morbidity and mortality of this very common disease.

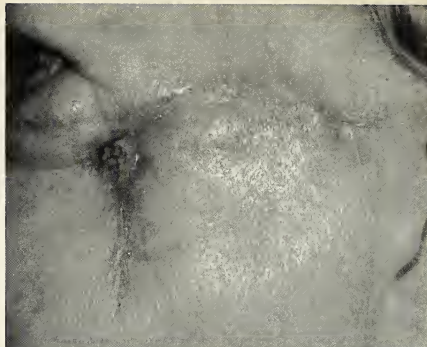


Figure 4. Recurrent basal cell carcinoma infiltrating surgical scar over the zygoma.



Figure 5. Angiosarcoma of the lateral forehead. Ecchymotic area with ulceration is seen.

## What's Your Line?

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# Lyme Disease: The Picture in Iowa

WAYNE ROWLEY

KENNETH PLATT

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Ames, Iowa

RUSSELL CURRIER

Des Moines, Iowa

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***Lyme disease in Iowa increased sharply in 1989 and 1990, creating concern in Iowans who spend considerable time out-of-doors. The authors review the history of Lyme disease and its symptoms and present an update on the status of Lyme disease and its tick vector in Iowa.***

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**L**YME DISEASE IS A SERIOUS and potentially debilitating disease that occurs in major foci located in the upper Midwest, the Northeast and the Pacific coast states. Lyme disease cases increased dramatically in the last few years with almost 8,000 cases reported to the Centers for Disease Control in 1989. The etiologic agent is a spirochete, *Borrelia burgdorferi*, that can affect the skin, joints, nervous system and heart.

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Wayne Rowley and Mark Novak are with the Iowa State University Department of Entomology in Ames. Kenneth Platt is with the Department of Veterinary Microbiology and Preventive Medicine at Iowa State. Russell Currier is with the Iowa Department of Public Health in Des Moines.

The primary focus of Lyme disease in the Midwest encompasses much of Wisconsin and eastern Minnesota.<sup>1,2</sup> The deer tick, *Ixodes dammini*, is the primary vector of Lyme disease in this region. This paper is the first report on the distribution of Lyme disease and the abundance of *I. dammini* in Iowa.

In the June, 1981 issue of the *Journal of the Iowa Medical Society*, Dryer et al reported 3 cases of Lyme disease diagnosed at University of Iowa Hospitals.<sup>6</sup> Since then, the incidence of Lyme disease has exploded, especially in the upper Midwest, necessitating a more detailed report of this disease and its significance to Iowa physicians. An important consideration is the diagnoses of 15 cases in Iowa in 1988, 29 cases in 1989 and 5 cases in the first half of 1990. A number of deer ticks have been collected in Iowa. Many Iowans vacation in the highly endemic areas of Wisconsin and Minnesota. This paper reviews the clinical symptoms, the natural history of the disease and its tick vector and summarizes recommendations for diagnosis and treatment.

## **Clinical Manifestations**

**First Stage** — Lyme disease has been called the great impersonator because of its ability to produce a variety of clinical symptoms. The disease occurs in 3 stages. Stage one is localized and is characterized by an expanding skin rash (EM) that is generally round or oval. The rash is the most important symptom and can lead to early diagnosis. The EM often begins as a red macule or papule at the site of the tick bite which expands as an annular erythema sometimes with a diameter of 12 inches. The

*(Continued next page)*



center of the lesion may be clear with a red elevated irregular ring that is distinct from the surrounding area. Erythema develops in about half of the patients. Multiple secondary annular lesions develop several days following the appearance of the original EM.

Patients with EM may also develop other nonspecific symptoms or signs such as headache, fever, chills, malaise, myalgias, arthralgias and regional lymphadenopathy. Photophobia, dyesthesias and stiff neck are examples of symptoms that may accompany or follow the EM. The duration of the EM and secondary lesions will vary from 2-4 weeks, although, occasionally they may persist for several weeks or months.<sup>11, 19, 20</sup>

**Second Stage** — Fifteen to 30% of the patients with Lyme disease develop neurologic manifestations. These may include, but are not limited to, unilateral or bilateral Bell's palsy,

unilateral or bilateral radiculopathic syndromes, aseptic meningitis, cranial neuropathies and acute or chronic encephalitic syndromes (sometimes with dementia and/or seizures). Some patients (5-8%) develop fluctuating degrees of atrioventricular block. Additional abnormalities include acute myopericarditis, left ventricular dysfunction and cardiomegaly.<sup>19, 20</sup>

**Third Stage** — The third stage of infection is characterized primarily by arthritis which occurs in approximately 60% of patients within a few weeks to years after the initial infection. The knee joints are most commonly affected although involvement of smaller joints may occur. Neurological manifestations may also occur in this stage and may resemble the neurological signs associated with multiple sclerosis. Psychiatric disorders have also been reported in some children who were infected

## TREATMENT OF LYME DISEASE<sup>1</sup>

	Drug	Adult Dosage	Pediatric Dosage
EARLY DISEASE	Doxycycline <sup>2</sup> (Vibramycin; and others)	100 mg bid × 10-21 days	
	or Amoxicillin (Amoxil; and others)	250 mg tid × 10-21 days	20-40 mg/kg/day × 10-21 days
Alternative:	Erythromycin (Erythrocine; and others)	250 mg qid × 10-21 days	30 mg/kg/day × 10-21 days
NEUROLOGIC DISEASE			
Mild (Bell's Palsy)	Doxycycline <sup>2</sup>	100 mg bid × 1 month	
	or Amoxicillin	250-500 mg tid × 1 month	20-40 mg/kg/day × 1 month
More serious CNS disease	Ceftriaxone (Rocephin)	2 grams/day IV × 14 days	50-80 mg/kg IV × 14 days
	or Penicillin G	20-24 million units/day IV × 10-14 days	250,000-400,000 units/kg/day IV × 10-14 days
CARDIAC DISEASE			
Mild	Doxycycline <sup>2</sup>	100 mg bid × 21 days	
	or Amoxicillin	250-500 mg tid × 21 days	20-40 mg/kg/day × 21 days
More Serious <sup>3</sup>	Ceftriaxone	2 grams/day IV × 10-21 days	50-80 mg/kg IV × 10-21 days
	or Penicillin G	20-24 million units/day IV × 10-21 days	250,000-400,000 units/kg/day IV × 10-21 days
ARTHRITIS <sup>4</sup>			
Oral	Doxycycline <sup>2</sup>	100 mg bid × 1 month	
	or Amoxicillin <sup>5</sup>	500 mg tid × 1 month	40 mg/kg/day × 1 month
Parenteral	Ceftriaxone	2 grams IV × 14-21 days	50-80 mg/kg IV × 14-21 days
	or Penicillin G	20-24 million units/day IV × 14-21 days	250,000-400,000 units/kg/day IV × 14-21 days

<sup>1</sup> Recommendations are based on limited data and should be considered tentative.

<sup>2</sup> Or tetracycline HCL (Achromycin; and others), 250-500 mg qid. Neither doxycycline or any other tetracycline should be used for children less than 8 years old or for pregnant or lactating women.

<sup>3</sup> A temporary pacemaker may be necessary.

<sup>4</sup> Response may be delayed for several weeks.

<sup>5</sup> Some clinicians have added probenecid (Benemid; and others).



before age 10. Episodic fatigue which may be incapacitating and last several days or weeks may also occur.

It is important to remember that any of these or related clinical symptoms may occur by themselves and can be recurrent. Steere, et al indicate that subclinical infections may be common and untreated asymptomatic individuals seem to be at risk for late complications of the disease.<sup>20</sup>

## Treatment

The treatment of Lyme disease was the subject of *The Medical Letter* which is reproduced here with the permission of the author (Vol. 31, issue 794, June 16, 1989). Note that recommendations are based on limited information and should be considered tentative.<sup>21</sup>

## Lyme Disease in Iowa

At Iowa State University, the entomology department received over 2,000 ticks from a concerned public in 1989-90. The majority of these ticks were the common American dog tick, *Dermacentor variabilis* or the Lone Star tick, *Amblyomma americanum*. There were 21 deer ticks; all but one of which came from the eastern third of Iowa. Most of the 50 cases of Lyme disease in Iowa also occurred in the eastern one-third of the state (Figure 1). Many of the deer ticks received were alive and were tested for the presence of *Borrelia burgdorferi*, using indirect fluorescent microscopy. Only one of the deer ticks tested positive. Positive controls consisted of *I. dammini* collected in western Wisconsin.

There was no difference in the number of Iowa cases with regard to the sex of the patient and the 50 cases were fairly evenly distributed between age groups.

*Ixodes dammini* has not been found in the western half of Iowa, although at least one case of Lyme disease (based on clinical signs and serology, Osceola County) apparently involved local exposure.<sup>5</sup> Adults, larvae, and nymphs have been collected in areas of north-eastern Iowa where the infection rate was 18% in adult ticks. The possibility exists that immature ticks are regularly brought into Iowa from endemic areas by humans, migrating birds and mammals establishing local foci, especially along the Mississippi River.

The southerly spread of *I. dammini* in Wisconsin suggests the tick will likely become more

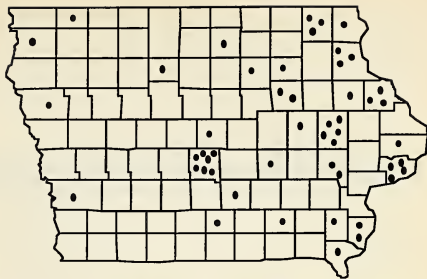


Figure 1. Distribution of Lyme disease cases in Iowa, 1983-89.

abundant, at least in eastern Iowa, especially along the Mississippi River and adjacent areas.<sup>3</sup> The spread of the tick into Iowa may prove interesting for several reasons: Iowa is a transitional zone between hardwood forest and prairie. Deer are abundant throughout the state but are becoming increasingly concentrated in greenbelts along waterways in central and western Iowa.

The importance of Lone Star ticks in the transmission of the bacterium that causes Lyme disease is unclear. One study implicated Lone Star ticks as secondary vectors of Lyme disease.<sup>22</sup> However, Mather and Mather found that Lone Star ticks become infected with *Borrelia burgdorferi* but are incapable of transmitting the agent to another host.<sup>23</sup>

Two major factors predispose the establishment of deer ticks. One is the increasing white-tailed deer (*Odocoileus virginianus*) populations and the other is the abundance of white-footed mice (*Peromyscus leucopus*) in wooded areas along streams, rivers and lakes (ponds). White-footed mice are the preferred host of larval deer ticks and serve as a reservoir for the spirochete *B. burgdorferi*.

In general, there is no reason to believe Lyme disease will not become endemic in Iowa. Increased numbers of cases and deer ticks along the Mississippi River in Iowa and Illinois indicate both are moving south from Wisconsin and Minnesota.

## References

References noted in this article are available from the authors or the editors of *IOWA MEDICINE*.

# Infective Endocarditis in Iowa

JOHN OLDS, M.D.

Des Moines, Iowa

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*This review of 43 cases of infective endocarditis (IE) treated at a large Iowa community hospital reveals an incidence of 9 cases per 22,000 annual admissions. IE is most likely to occur in an elderly male with non-specific symptoms and signs and involvement of the mitral valve infected with streptococci.*

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MOST STUDIES ON INFECTIVE ENDOCARDITIS (IE) are from academic centers.<sup>1-3</sup> There has not been a recent review of endocarditis in Iowa or of a patient population served by a tertiary community hospital. This report examines cases of IE at a large community hospital in Iowa to determine if they differ from those in previous reports. Clinical features and therapeutic aspects of IE are reviewed.

## Methods

A retrospective chart review of all cases of IE admitted to Iowa Methodist Medical Center in Des Moines for the 5-year period from January 1, 1985, to December 31, 1989, was conducted. Forty-three cases were identified.

## Results

Of the 43 cases, 7 were considered definite on the basis of autopsy or surgical findings

and 23 probable and 13 possible on clinical grounds under the criteria of von Reyn et al.<sup>4</sup> Four cases coded as possible endocarditis on chart face sheets were rejected because they did not meet the established criteria. Cases were distributed approximately evenly over the 5 years; 49% were from Des Moines metropolitan area. Males represented 60%; 70% of patients were over 60 years old. Fifty-six percent had pre-existing heart disease and 42% a pre-disposing non-endocardial disorder.

Initially only 26 patients (60%) complained of fever and less than 50% of patients had chills, fatigue or other non-specific symptoms. Localizing symptoms such as dyspnea, chest or abdominal pain, or neurologic dysfunction occurred in less than 50% of cases. It is noteworthy that one-third of patients presented with neurologic complaints (Table 1).

Non-specific clinical signs of fever, tachycardia and hypotension were found in 79, 49 and 7% of patients respectively. Vascular phenomena were encountered infrequently with petechiae the most common finding. Neurologic signs occurred in approximately one-third of patients. New or changing heart murmurs were detected in one-third of the cases and no murmur was noted in 9% (Table 2). The most consistent abnormal laboratory finding was an elevated Westergren erythrocyte sedimentation rate in 100% of patients. The next most frequent laboratory abnormality was anemia in 77%. Leukocytosis occurred in only one-half of the patients at admission.

Based on the clinical presentation, IE was a diagnostic consideration on admission in only 40% of patients with sepsis, pneumonia or myocardial infarct accounting for another 30% of diagnostic first impressions. A source of infection was suspected in one-third of the patients, with wound/skin infection most com-

Dr. Olds is an internist with a specialty in infectious diseases. He practices at Iowa Methodist Medical Center, Des Moines.

mon at 12% and a prior dental procedure reported in only 5%.

All of 2 or more blood cultures (range 2/2 to 6/6) were positive in 51% of cases, and more than 50% of 3 or more cultures were positive in another 11%. Ten patients (23%) had one of 2 or more cultures positive. Only 7% of patients had negative cultures (probably

due to administration of pre-culture antibiotics). In 3 cases (7%), all referred from other hospitals, cultures were reported as positive but the number of cultures was unavailable (Table 3).

Gram positive cocci were the cause of 72% of IE cases, with streptococci accounting for 44%, staphylococci 23% and listeria 5%. Gram negative organisms were identified in 14% and 2 organisms were identified in 3 cases or 7%. Most infections were of a single valve (mitral 47%, aortic 30%, tricuspid 2%). Prosthetic valves were infected in 6 patients (16%).

Echocardiography, particularly 2-dimensional, provided helpful information. In 90% of cases an abnormal valve was identified and in 66% the study was interpreted as showing vegetations. In those abnormal cases where vegetations were absent, valvular dysfunction or thickening of a valve was usually reported.

Many patients needed special therapeutic procedures. Most commonly (in 26%) ventilatory support was required. Of those on a ventilator, only 3 of 11 (27%) survived. The most ominous procedure in this series was renal dialysis required in 6 patients, none of whom survived.

(Continued next page)

TABLE 1  
CLINICAL AT PRESENTATION

Presenting Symptoms	No.	%
Non specific		
Fever	26	60
Chills	20	47
Sweats	8	19
Weight loss	8	19
Anorexia	12	28
Fatigue	16	37
Weakness	10	23
Specific		
Dyspnea	17	40
Chest pain	6	14
Headache	5	12
Nausea/vomiting	6	14
Abdominal pain	7	16
Arth./myal.	9	21
Neur. dysfunction	14	33

TABLE 2  
CLINICAL AT PRESENTATION

Presenting Signs	No.	%
Non specific		
Fever (>99.9)	34	79
Tachycardia (>99)	21	49
Hypotension (<100)	3	7
Vascular/embolic		
Splinter hemorrhages	3	7
Petechii	12	28
Osler/Janeway lesions	5	12
Roth spots	2	5
Central nervous system		
Confusion	7	16
Focal	9	21
Seizures	2	5
Heart murmur		
New or changing	14	33
Old	19	44
Unknown if new/old	6	14
No murmur	4	9
Acute arthritis	4	9
Splenomegaly	7	16

TABLE 3  
BLOOD CULTURES

Organism Identification	No.	%
Gram positive	31	72
Streptococci	19	44
Group A	2	5
Group B	3	7
Viridans	8	18
Pneumonia	1	2
Enterococcus	3	7
Other	2	5
Staphylococci	10	23
Aureus	8	18
Epidermidis	2	5
Listeria	2	5
Gram negative	6	14
Hemophilus	2	5
Moraxella	1	2
Kingella	1	2
B. fragilis	1	2
Serratia	1	2
Yeast/fungi	0	0
Mixed*	3	7

\*Strep Pneumo/E. coli, Staph Epi/Pseudo cepacia, Staph Epi/Propionobacteria.

One third of the patients had no complications. One third had some degree of renal failure (one-half due to glomerulonephritis), 30% required treatment for congestive heart failure and 21% sustained a major neurological event either prior to or during the hospitalization. Six patients (14%) underwent valve replacement.

Although antimicrobial therapy varied considerably, penicillin or ampicillin with or without an aminoglycoside was administered in over one-half of the cases with a survival rate of 19 of 22 (86%). In 3 cases clindamycin alone or with another antimicrobial was selected. Only 1 of these 3 patients survived. Schlichter studies were performed in 18 cases. In 16 of these, peak bactericidal titers were 1:8 or greater with survival of 87%. The overall mortality was 25% with 16% of deaths due to endocarditis and 9% due to some other cause. Survival for 32 patients seen by an infectious disease consultant was 87%. In the 11 patients not seen by an infectious disease consultant, survival was only 36%.

## Discussion

The majority of the patients reviewed in this series were admitted to a medical service, many to subspecialties such as oncology, nephrology, pulmonology and cardiology. Occasional patients were also seen first on a surgical service including neurosurgery, ob-gyn and vascular surgery. A few were admitted first to family practice and one to pediatrics.

The low index of suspicion at presentation for IE (40%) is consistent with other reports.<sup>3, 5</sup> Since IE is an uncommon disease (9/22,000 admissions in this series) and its presenting symptoms and signs are generally non-specific, such a finding is not surprising. The remaining 60% of cases were diagnosed after admission but prior to death. This finding differs from other recent reviews where up to 17% of cases were not diagnosed until autopsy.<sup>5, 6</sup>

Except for the relatively low incidence of non-specific symptoms (fever, chills, weight loss, anorexia, etc.) prior to admission, the clinical features are similar to those found in other reports.<sup>3, 4, 7</sup> The signs that should raise the clinician's index of suspicion for IE (neurologic findings, new or changing murmurs or vascular phenomena), each occurred in only approximately one-third of patients. Of these only vascular phenomena were correlated with

an early diagnosis of IE (11 of 18 patients). Presentation with a new or changing murmur or neurologic findings showed less correlation with an early diagnosis (5/18 and 6/18 respectively).

Although 100% of patients who had erythrocyte sedimentation rates determined had elevations, this study is non-specific and, if normal, useful only in lessening the suspicion for IE. Two-dimensional echocardiography is helpful in the clinical diagnosis of IE if it is positive for vegetations or other abnormality (66% and 27% respectively in this series). Thus a normal erythrocyte sedimentation rate and normal 2-dimensional echocardiogram virtually excludes the diagnosis of IE.

Microbiologic data, both in numbers of cultures positive and distribution of organisms, is generally consistent with available literature, with the exception of a higher incidence of gram negative organisms (14% in pure culture, 21% with mixed cultures included).<sup>3-7, 9, 10</sup> In most series the incidence is about 5%.

Although an overall mortality of 25% is average for IE, a 14% mortality for patients with prosthetic valve endocarditis is low compared to most series.<sup>3, 4</sup> (Three patients were treated medically only, 3 with surgery plus antibiotics.) Mortality was also comparatively low for patients who received penicillin or ampicillin with or without aminoglycoside (86%). This is likely due to the absence of staphylococci.

Finally, there was also a positive correlation with survival in this series, both with serum antibiotic bactericidal levels against the infecting organism of 1:8 or greater (87%), and with the participation of an infectious disease consultant (87%). The data, however, do not establish a causal relationship between these findings.

## Conclusion

IE remains a difficult diagnostic and therapeutic challenge. The disease occurs infrequently and generally with non-specific findings. The most likely patient to present with IE is a male over 60 years who has an approximately one-third chance of having vascular phenomena, a new or changing heart murmur or a change in neurologic status. Once the clinical suspicion of IE is considered, the most helpful diagnostic studies are blood cultures



and 2-D echocardiography. Either the mitral or aortic valve will be infected with a gram positive coccus (most likely streptococcus). The patient has a 75% chance of survival unless his illness leads to the need for endotracheal intubation or renal dialysis in which case it is unlikely he will survive.

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## The Editor Comments

Marion E. Alberts, M.D.



# An Editorial Challenge

WE RECEIVE A WIDE ASSORTMENT of materials for potential inclusion in our Journal. The scientific papers cover many subjects and most of them are very well done. Some are short; some far too lengthy for publication in their complete form. Some are well-written in a very scholarly fashion. Alas, some need considerable editing. We welcome all and are pleased we can eventually publish most of the scientific manuscripts received.

Last month I faced a new challenge. Reproduced herein is the title, author and first paragraph of a paper received for consideration. Needless to say, I was a bit taken aback. The paper came to us as a result of a friendship formed between the author and Doctor Steven Phillips, a heart surgeon in Des Moines. The author is a psychiatrist in Russia. He attended a meeting in Des Moines a year or so ago.

The Russian language is not within my capabilities. According to a brief English translation this paper concerns sexual disorders in the remission period of alcoholic patients. Any of our readers conversant with the Russian language might want to fill us in as to the statements reproduced as part of this editorial.

We regret that we cannot publish any of the papers submitted by this physician. We are flattered that he would consider *IOWA MEDICINE* as the medium for his introduction to the medical literature of the U.S. Also, our thanks to Doctor Phillips for relaying the manuscripts to us.

The number of manuscripts sent to us has made it necessary to develop some guidelines for acceptance for publication. We prefer articles written totally or in part by

members of the IMS. Also, we attempt to keep a balance of subject matter which will have appeal to most of our readers. We do have a wide readership beyond the membership of the IMS. *IOWA MEDICINE* circulation roster includes readers from 49 states other than Iowa as well as 9 foreign countries. We are proud of that.

This issue marks the beginning of my 21st year as scientific editor of *IOWA MEDICINE*. I am proud I have had the opportunity to serve the IMS in this capacity. I sincerely hope I may add more years to that continuum. To our readers from all our staff, many thanks. We welcome suggestions, pro and con, of what our readers feel about our efforts. We appreciate the receipt of manuscripts for publication. We want *IOWA MEDICINE* to be *your* journal. — M.E.A.

А.Н. Ибатов

Сексуальные нарушения в  
ремиссионном периоде  
хронического алкоголизма

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часты и многообразны; их связывают  
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социальных и биологических  
факторов и выраженность их  
при алкоголизме зависит от  
стадии заболевания. При этом  
считается, что алкоголь будучи



Richard M. Caplan, M.D.



# Use Moderation Moderately

I'VE NO IDEA WHO FIRST uttered the oft-quoted maxim, "Moderation in All Things." It seems so plausible, reasonable, wise. If "moderation" were added to America's great list (flag, Mom and apple pie), who would think to protest, or dare to? After all, being moderate (prudent, middle-of-the-road, running-with-the-pack, etc.) seems the obvious way to succeed and do all the good and proper things while avoiding the pain and harm of turmoil and extremism. Right? Of course . . . but . . .

Is it even *possible* to be moderate about everything? To be absolutely, unvaryingly in the middle is to be rigid, surely dull and maybe even dead. Life forms, ours at least, seem to need to move, to explore, to vary their circumstances not only in location but in stimuli and emotion. More than just variation, we sometimes need passion. Without occasional feelings of anticipation, excitement, tension-and-resolution — dare I even say love — we are inert, passive, stodgy. Our activities readily become trivial and uninteresting, whether in our "personal" or "professional" roles.

So what has this to do with CME? Among possible interpretations, I'll offer just one. If you haven't developed an "intellectual passion" about something, then do so. If the phrase itself seems excessive to your customarily moderate nature, then call it a hobby or a special interest. No matter what your medical specialty, I promise you much satisfaction if you'll choose one topic (preferably small or esoteric) and really dig into it. With prudence in that selection, plus the

magnificent library resources now available, we can each become a world expert.

That can happen without our making a contribution to the pool of knowledge, although having such a fund of information at hand allows, even encourages, that possibility. What topic to choose? How about starting with a "mystery" presented by one of your own patients, maybe someone with an uncommon disorder, or even an uncommon symptom ("Doctor, my eyelashes ache"). Or make a list — short, I'm sure — of issues that have always especially puzzled or intrigued you. Then do some reading about it, and every 3 to 6 months repeat the search for whatever was newly published about your topic.

I've used a medical example, but urge you to apply the same spirit of inquiry and follow-through to some non-medical topic as well. Often the "non-medical" will contain or merge with some medical strands that other people might not have noticed. But whether your fascination explores the growth patterns of hybrid marigolds, the techniques used by the Venetian Doges to govern trade, the at-home-*vs.*-away home run experience of the Cubs, find something to pursue with enough dedication — yes, passion — that at least on *that* topic, you are no longer practicing moderation. Robert Frost's little poem captures the spirit well:

### In a Glass of Cider

It seemed I was a mite of sediment  
That waited for the bottom to ferment  
So I could catch a bubble in ascent.  
I rode up on one till the bubble burst  
And when that left me to sink back reversed  
I was no worse off than I was at first.  
I'd catch another bubble if I waited.  
The thing was to get now and then elated.

---

Dr. Caplan is Associate Dean for Continuing Medical Education at the University of Iowa College of Medicine.



## The Christine Busalacchi Case

**A** 17-YEAR-OLD GIRL HAD SEVERE brain damage following a car wreck. A week after the accident, the girl's father consented to the surgical placement of a feeding tube that would sustain his daughter's life.

The young woman ended up as a patient at the Missouri Rehabilitation Center in Mount Vernon, where she remained for over 3 years in a persistent vegetative state. In early 1991, when her father decided the feeding tube should be removed so his daughter could die, he was prevented from doing so by the hospital, the state department of health and the court system in Missouri.

Does this case sound vaguely familiar? It is not another version of the Nancy Cruzan case (she died on December 26, 1990), although Chris Busalacchi was in the same ward of the Missouri Rehabilitation Center with Nancy Cruzan for a period of time.

The cases are similar in some ways: the young ages and gender of the patients, the diagnosis of PVS, the refusal by the parents of continued tube feeding and the legal intervention by the state.

There are also important differences in the 2 cases: 1) Chris Busalacchi was 9 years younger than Nancy Cruzan at the time of their car wrecks; 2) she, unlike Cruzan, had never made comments to anyone about not wanting her life sustained with medical technology; 3) her father, Peter Busalacchi, in the role of her surrogate, could not therefore make a "substituted judgment" for his daughter; 4) no evidence of the patient's preferences could be presented to a court that would meet Missouri's "clear and convincing" legal standard for evidence; 5) Pete Busalacchi, unlike the

Cruzans, indicated he planned to take his daughter to Minneapolis for additional diagnostic tests and, if the diagnosis is PVS, removal of her feeding tube there; and 6) Chris Busalacchi, unlike Cruzan (and the majority of patients anywhere), became the subject of a videotape made by the state department of health and shown on local television stations without her father's knowledge or consent.

Moreover, as this is being written, the case differs from the Cruzan case in that neither the Missouri Supreme Court nor the U.S. Supreme Court has reviewed the 2-to-1 decision in March by the Eastern District Court of Appeals (in Missouri) to reject Pete Busalacchi's request to take his daughter to Minnesota.

This case has obvious legal importance. It is possible it will end up in the U.S. Supreme Court with questions related to the rights of nonautonomous patients and their surrogates to make decisions about medical treatment, the right to travel across state borders to seek medical opinions and treatment and the rights of state governments to override parental preferences regarding medical treatment for patients who cannot make decisions about their own health care.

In addition, the case raises several ethical issues regarding nonautonomous patients: the importance of working with appropriate surrogates of these patients (a relative or close friend who knows the patient well), the necessity of making decisions based on the patient's best interests when substituted judgment is not possible, the need to make decisions about technological feeding in the same way decisions are made about other forms of medical technology and the importance of keeping clinical cases out of the courts whenever possible.

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This column is written by Robert Weir, Ph.D., director of biomedical ethics for the University of Iowa College of Medicine.

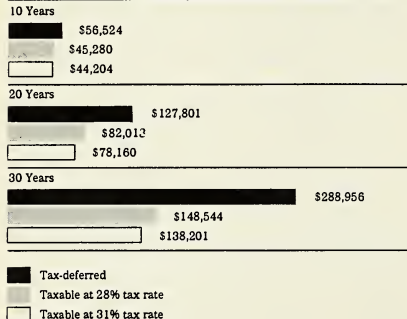
# A Sane Investment

**T**HE MODERN DEFERRED ANNUITY — a contract issued by an insurance company — makes a lot of sense regardless of stock market conditions. "Annuity" means a stream of payments. Unlike life insurance which provides financial protection in case of premature death, an annuity provides financial security during your lifetime.

Earnings on an annuity contract compound free of federal and state income taxes until you withdraw the money. The difference between earnings taxed at 28% or 31% and those which compound tax-deferred can be dramatic:

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Various annuity contracts are available for conservative or aggressive savers. Fixed annuities offer guarantees by the issuing insurance company on the principal, accumulated interest and rate paid. The initial interest rate is fixed for a specific period; thereafter the rate can be adjusted.

Investors willing to take more risk may prefer variable annuities which allow you to choose professionally managed securities portfolios. A popular way is to authorize transfer of assets on a monthly basis from the annuity's money market fund or fixed account to an investment fund. There are no charges or tax consequences. In a variable annuity, if you should die prior to receiving payouts, your beneficiaries are guaranteed to receive the total amount you invested or your account value — whichever is greater — free of probate.

Deferred annuities have no front-end sales charge — 100% of your investment goes to work right away. On most contracts, you may request a withdrawal of up to 10% of your purchase payments per contract year. These withdrawals may be subject to taxation. Withdrawals in excess of 10% may be assessed a sales charge based on the time you have owned the annuity. After 1–7 years, there generally is no withdrawal charge.

Annuities offer you a choice of several payout options. Certain options provide for continued payment to a survivor. The selection of a payout option need not be made at the time of initial purchase of the annuity, but most states require a decision by age 90.

The exceptional flexibility of deferred annuities combined with such benefits as tax-deferral, probate avoidance, dollar cost averaging and other estate-planning tools makes them attractive in today's confusing investment environment.

This article was written by Miles Luchtenburg, assistant vice president with Piper, Jaffray and Hopwood in Des Moines.

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## About Iowa Physicians

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**Dr. John Bambara** was recently appointed medical director of the Mahaska County Hospital Emergency Department, Oskaloosa. Dr. Bambara previously practiced family medicine in Davenport. **Dr. Carlyn Christensen-Szalanski** has opened the Adolescent and Pediatric Health Clinic in Iowa City. Dr. Christensen-Szalanski previously practiced at Muscatine Health Center. **Dr. James Hanson**, U. of I. College of Medicine pediatric geneticist, has been named a 1991 Kennedy Foundation Fellow in Public Policy. Dr. Hanson will work for one year with the Subcommittee on Disability Policy which is chaired by Senator Tom Harkin. **Dr. Luis Barrios** has joined the Mercy Care Clinic in Marengo. Dr. Barrios received the M.D. degree from the Universidad de San Carlos de Guatemala and completed residencies at Brooklyn-Cumberland Medical Center, Brooklyn, New York and Sacred Heart Hospital and Medical Center, Allentown, Pennsylvania. **Dr. Roger Ceilley**, Des Moines, has

been elected a member of the American Academy of Dermatology board of directors. **Dr. William DeGravelles**, Des Moines, has been elected president of the Iowa Society of Rehabilitation Medicine. **Dr. Marvin Hurd**, West Des Moines was elected secretary/treasurer. **Dr. Emmett Mathiasen**, Council Bluffs, has been elected president of the board of directors of the Iowa Association of Long-Term Care Facility Medical Directors. Other officers include **Dr. Ronald Roth**, Waterloo, vice president and **Dr. Robert Wettach**, Mt. Pleasant, secretary/treasurer. **Dr. Pravina Shah** has joined the medical staff at Grinnell General Hospital. Dr. Shah received the M.D. degree from the University of Gujarat in India and completed an internship and residency at Albert Einstein Medical Center, Philadelphia, Pennsylvania. Most recently Dr. Shah served as staff anesthesiologist at Helene Fuld Medical Center, Trenton, New Jersey and Staten Island Hospital, New York.

## IS ANYONE OUT THERE???

Over the past several months, *IOWA MEDICINE* has invited its readers to (1) submit photographs for possible use on the cover of the magazine (2) submit brief articles or anecdotes about an unusual case or (3) submit opinions on specific medical/socioeconomic questions.

The response has been—in a word—lousy! But, we'll keep trying.

If you have a favorite unusual photograph of a person, place or thing, please let us see it.

If you have a particularly interesting medical diagnosis or treatment story, please share it.

If you have an opinion, let us tell our readers about it. Just respond to the following question, and we'll save space to print several individual comments:

*What is the major crisis facing the practice of medicine?*

We know you're out there—please talk to us!

THE EDITORS



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# Screening and Prevention of Skin Cancer

*Editors' Note: This month's guest authors are Gerry Tetrault, R.N., B.S.N., head nurse with the dermatology outpatient clinic at University of Iowa Hospitals and Clinics and Richard Caplan, M.D., a dermatologist and associate dean for continuing medical education at the University of Iowa College of Medicine.*

**B**ECAUSE SKIN CANCER is the fastest growing form of cancer in the USA, with more than 600,000 new cases expected in 1991, the National Skin Cancer Prevention and Detection "Week" has been expanded to the entire month of May.

In 1990, approximately 100,000 people throughout the nation were examined in free public screening sessions sponsored by the American Academy of Dermatology. Almost 900 suspected melanomas were discovered as well as 7,959 suspected basal cell carcinomas and 1,069 squamous cell carcinomas. Because early detection and treatment is critical for existing skin cancers, this program is not only one of the finest examples of medical public service but also has saved lives.

The majority of skin cancers can be attributed to overexposure to the sun. Skin cancer is the most common form of cancer in the United States, with the number of melanoma cases doubling each recent decade. One in 7 Americans now alive will develop skin cancer in their lifetime, a number growing by about 4% annually. Skin cancer is an undeclared epidemic.

## **Nurses Join Educational Efforts**

Joining dermatologists in this crusade to detect and prevent skin cancer have been

members of the Dermatology Nurses' Association. At the screening, usually requiring about 5 minutes per person, participants are checked by a dermatologist for specific lesions or conditions. Should a suspicious lesion be found, the person is given a written report and directed to his or her own physician for follow-up. Nurses give written and verbal information about the different kinds of skin cancer and provide strategies for skin protection.

Locally, nurses sponsor skin cancer awareness and prevention programs which may take place at schools, day care centers, community centers and health fairs. Emphasis is given to the use of physical and chemical sun protection barriers, such as wearing protective clothing and chemical sunscreens, when exposing oneself to the sun. Participants are encouraged to avoid outdoor activities from 10 A.M. to 2 P.M., if possible.

Dermatologists and the Dermatology Nurses' Association are committed to heightening the awareness and understanding of melanoma and non-melanoma skin cancers among the general public and members of the health care community. The goal: to educate everyone to a conscientious lifelong program to avoid unprotected sun exposure.

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May 1991

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Iowa Medicine

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## President's Privilege

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R. Bruce Trimble, M.D.



# "The Patient on the Doorstep"

I AM NOT SURE if the editor has done a readership survey of the president's column. One very faithful reader, however, is a president-elect. It has become clear to me that the title of this page permits wide latitude in topic choice. My predecessors have written thoughtful columns, but they have not felt constrained to pursue a common theme. Nor will I. Reprinted in this first column with the kind permission of *New England Journal of Medicine* is a letter which has been on my bulletin board for a number of years.

**To the Editor:** We would all be good and gracious if we could only determine the conditions: if we felt well; if the good to be done were rewarding enough to us; if the time and place were convenient; if the task fell within our specialty or subspecialty; and if it were in no way demeaning to our sense of self. Alas, the opportunities for doing good under these ideal conditions are too few.

I am concerned about patients who just don't seem to fit the medical scheme of things. Pity the old bachelor who turns up at a Family Medicine clinic and is referred to a hospital emergency room because he has no family. Pity the patient who is neither "medical," "surgical" nor psychiatric, who must confront an imperious resident on any of these services. Pity the patient, with a late afternoon appointment with an internist, who obviously has a functional disorder. Pity the old person who simply needs a friend to tell his troubles to.

Such patients, even if they were saints, make us uncomfortable. They are on our doorstep asking for help. Our inadequate treatment

of them is bringing our profession into disrepute. What usually happens is that we give the patient what he perceives to be a brush-off. Instead of taking a history and doing a physical examination, we tend to jump to the conclusion that the patient is not really our kind of patient. We do peevishly what might be done graciously. Ordinary good manners give way to cold civility. The sense of touch is replaced by a sense of distance.

We all need to be reminded from time to time that we should be not only good at what we do but good in the way that we go about it. I believe the trait we need is graciousness. Graciousness embraces cordiality and generosity. It suggests a willingness to go the second mile, to soothe the irritable and to calm the troubled. Furthermore, graciousness, sincere and not effusive, is good, not only for patients, but good for us too — daily, hourly, in all our dealings, but particularly with patients on the doorstep. — William Poe, M.D., Salem, Virginia.

The theme of this issue is emergency medicine. We do not all need to be as fully trained for emergencies as the specialists, but we all should have a basic level of competence. Have you reviewed basic cardiac life support recently? How about ACLS? Are you familiar with your community disaster plan?

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# Attorney for Cruzans Discusses Legal 'Odyssey'

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*On December 11, 1983, 25-year-old Missourian Nancy Cruzan was in a serious car accident, pronounced dead at the scene by police then resuscitated by paramedics. On December 14, 1990, the gastrostomy tube which had kept Nancy alive since the accident was removed and she died 11 days later. The heartbreak, legal maneuvering and impassioned discussions of the 8 years between these events captured the attention of the nation.*

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ATTORNEY WILLIAM COLBY TRIED his best, but emotion prevented him from discussing a December 26 phone call from Joe Cruzan telling him Nancy had died. "Maybe I'll be able to talk about it later," he told an audience of Iowa physicians and attorneys in Des Moines January 31. "Maybe in a while."

Guest speaker at a joint dinner conference involving the Iowa Medical Society and the Iowa State Bar Association, Colby represented Nancy Cruzan's parents in their extended struggle to remove the feeding tube which kept their daughter in a hopeless vegetative state. On the opposite side of the ring in the fight, Colby said, was the State of Missouri and its "unqualified interest in life."

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Mr. Colby is a partner in the Kansas City law firm of Shook, Hardy and Bacon. The firm donated over \$500,000 in legal fees to the family in fighting the Cruzan case.

Nancy was in intensive care for 3 weeks following her accident. During that time, doctors told her parents there was no way of knowing if or when she would wake from her coma. When she became malnourished, doctors asked the Cruzans for permission to insert a gastrostomy tube and pump.

"Like any parents, they gave their permission," related Colby. "They wanted her to have every chance."

A week or so later, Nancy's eyes opened. At first, Joe and Joyce Cruzan thought this was progress. But, they still had a lot to learn about patients in a persistent state of vegetation.

"A person in this state is not in a coma. They grimace, make noises and even open their eyes. But they have no consciousness and most of the upper, thinking part of the brain is just dead," Colby explained, relating that Nancy Cruzan's brain was probably without oxygen for 24 minutes at the accident scene. "If a patient in this condition is fed through a tube, that patient can live 30 years."

Eventually, Nancy was moved to the state rehabilitation hospital. As time wore on, her parents accepted the fact she was never going to improve. Her knees drew up to her chest and her fingers contracted so severely that towels had to be wedged beneath her fingers to keep her nails from cutting her wrists. It became clear to the Cruzans that Nancy would not have wanted to be in such a condition. They asked the hospital to remove the gastrostomy tube but the hospital would not do so without a court order.

*(Continued next page)*

"So, the Cruzans began their odyssey through the court system," said Colby. "The trial court ruled Nancy had a constitutional and Missouri state right to have the tube removed, but the Missouri Attorney General appealed directly to the Missouri Supreme Court. In a 4-3 decision, this court overturned the trial court. The Missouri Supreme Court was the first in the country to rule so expansively against a family in this regard. Once you start a treatment on an unconscious patient in Missouri, it can't be stopped unless it's causing pain."

On December 6, 1989, the U.S. Supreme Court heard the Cruzan case. "The organized medical community was actively on our side, as were most religious groups," Colby said. "Opposing us was the Catholic Conference and the Solicitor General of the United States, who is President Bush's lawyer in the Supreme Court."

The Supreme Court decision came June 25, 1990 and, ironically, it was hailed by both sides as a victory. Though the court recognized for the first time that artificial feeding is medical treatment which can be constitutionally refused, it did not say the State of Missouri's actions were unconstitutional. The ball was back in Missouri's court.

The Cruzans returned to state court last November and provided what the judge deemed "clear and convincing evidence" of

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*'It's tough enough for people like the Cruzans without strangers coming in dictating what they believe is morally right.'*

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Nancy's wishes regarding life-sustaining medical treatment. Her tube was removed and she died peacefully on December 26. No signs of starvation which had been predicted by right-to-life groups materialized, and Nancy exhibited no discomfort. Her body, said Colby, simply shut down.

"In all polls, 92-94% of people say they don't want extraordinary medical treatment if they are hopelessly vegetative. Therefore, it makes no sense for a state to force some-



Diane Kutzko, J.D., William Colby, J.D. and Warren Wulfekuhler, M.D. confer at a joint IMS/Bar Association Conference on withholding/withdrawing medical care.

one to have all the medical treatment available unless that person left behind clear and convincing evidence of her wishes."

"Unless a family member of an unconscious person is making a decision that's contrary to medical ethics or the express wishes of the patient, the state should not be involved in these decisions," Colby commented. "It's tough enough for people like the Cruzans without strangers coming in dictating what they believe is morally right."

Colby also related the final state court decision was made following a poll in which 89% of Missouri residents said the Cruzans "should be allowed to do what they want."

An estimated 10,000 Americans are in a vegetative condition, said Colby. The cause is growing medical technology which can bring people back who once would have died.

Colby has taken another case similar to Nancy's involving a St. Louis man whose daughter, also a car accident victim, is being kept alive by a gastrostomy tube. The man is attempting to move her to another state where the laws are less stringent.

"The office of the Attorney General of Missouri has evolved from calling these families murderers, which it did at the start of the Cruzan case, to saying these families must be helped. Missouri's State Department of Health hasn't undergone this evolution and they're fighting his attempts to move his daughter," concluded Colby.

# Durable Power of Attorney for Health Care

Legislation developed by the Iowa Medical Society and the Iowa State Bar Association to create a durable power of attorney for health care was approved by the Iowa General Assembly during its 1991 session. House file 501 provides statutory recognition of documents designating another person (called the "attorney in fact") to make health care decisions for a patient (the "principal") who is temporarily or permanently unable to make those decisions.

Prior to passage of HF 501, Iowa law provided for a general durable power of attorney but it was not specifically developed to apply to health care decisions. House File 501 also provides that a durable power of attorney for health care which has been executed before the new law went into effect will receive the same statutory recognition. Similar documents from other states will also be recognized.

## *Living Wills Do Not Cover 'Sustenance'*

A durable power of attorney for health care differs from a living will. A living will expresses the patient's wishes regarding health care only in the event of a terminal condition. Iowa's living will law does not cover withdrawal of "sustenance" regardless of the patient's condition. A durable power of attorney is a broader document which covers any situation in which the patient is unable to make decisions, whether temporary or permanent. A durable power of attorney

may include statements regarding the specific wishes of a patient or may simply designate a person (such as a spouse or trusted friend) to make decisions for the patient. In either case, it is advisable for the patient and the designated decision maker to discuss in depth the patient's wishes regarding medical care, including withholding and withdrawal of nutrition and hydration provided parenterally or by intubation.

## *Mechanism for Fulfilling A Patient's Wishes*

The new law also states that it may not be construed to authorize mercy killing or euthanasia. Physicians continue to be bound by medical ethics in making treatment decisions. Also, a physician who refuses to withhold or withdraw life support is not subject to prosecution or professional discipline.

Health care decisions, including whether to withhold or withdraw life sustaining care, may still be made for a patient who is unable to make those decisions in the absence of a durable power of attorney for health care. The power of attorney is simply a tool to help in making health care decisions. It provides a way to help make sure the patient's wishes are carried out by providing a mechanism for the patient to designate another person to make those decisions when the patient cannot. If the patient regains capacity to make decisions, the durable power of attorney will no longer be in effect.

*Forms for a durable power of attorney for health care are available from the Iowa State Bar Association, 1101 Fleming Building, Des Moines, Iowa 50309, 515/243-3179.*

Larry Baker, D.O.



# Emergency Physicians Face Unique Pressures

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*The author, president of the Iowa Chapter, American College of Emergency Physicians, discusses crucial issues facing this specialty.*

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**What is the picture with regard to the supply of emergency physicians?**

Emergency physicians are in great demand but face unique pressures. A high burn-out rate traditionally has kept emergency medicine a young doctor's profession. Emergency medicine residencies account for only 600 graduates annually. Practice option eligibility for the American Board of Emergency Medicine ended in 1988. Therefore, in spite of great demand, professional attrition of emergency medicine physicians continues to outpace the supply. This results in a shortfall.

**What recent technological and scientific advances have affected your specialty?**

Emergency medicine is one of the newest specialties. Most technology that aids rapid diagnosis and treatment affects emergency medicine. Immediately available diagnostic tools such as CT scanning, MRI scanning, ultrasonography, invasive radiology/cardiology services and rapidly acquired laboratory data are available in most modern hospitals. Cost-effective and responsible applications of this technology present a daily dilemma for emergency physicians. It is advantageous to have

this technology, but withholding it occasionally places us at legal risk.

Mention must be made of advances in emergency cardiac care, from pre-hospital advanced care and defibrillation to use of thrombolytics in the face of a myocardial infarction. Diagnosis and treatment of an acute myocardial infarction are moving from the coronary care unit to the pre-hospital and emergency department arenas, with critical decisions often made before the patient arrives at the hospital.

**What socioeconomic developments have influenced emergency medicine?**

Emergency physicians are the only group mandated by federal law to see every patient who comes for treatment. Federal mandate states that all patients who come to the emergency department must have a screening examination by a physician. Certain stabilization and transfer criteria also apply. As a result, people who may not have health insurance commonly come to the emergency department for medical care. In larger cities, this phenomena has resulted in overcrowding and grid locks of ambulances searching for emergency departments who have room for new patients.

This has not become a major problem in Iowa, but many of our larger cities are reporting periods of overcrowding. In some areas hospital bed utilization is so high that moving patients from the emergency department to inpatient beds is hampered.

Traditional social woes continue to affect emergency medicine. Alcohol and drug abuse manifest themselves in domestic violence and



traffic accidents. Financial stress may cause depression and suicide attempts. The aging of our population in Iowa is reflected by the number of emergency department geriatric consults. These are a few of the societal changes that influence emergency medicine due to our constant availability.

**What are the concerns and goals of the Iowa Chapter, American College of Emergency Physicians (IACEP)?**

IACEP hopes to foster an environment that is supportive of emergency medicine. A number of areas in the state are unable to attract qualified emergency physicians. We hope to address this problem on several fronts.

Like other specialties, emergency medicine is affected by federal and state legislation and reimbursement policies. IACEP has developed strategies to make key contacts with state legislators regarding emergency medicine issues. The demand for qualified physicians throughout the country translates into a need for competitive salary and benefit pack-

ages. The local reimbursement environment must be one that attracts new emergency physicians to replace those lost to attrition and to serve in shortage areas.

Finally, we intend to continue educational support for pre-hospital personnel, citizens, legislators and other medical specialists on the needs of emergency medicine.

**What are the most difficult ethical issues faced by your specialty?**

There are so many ethical issues facing emergency medicine it would be inappropriate to assign unique importance to any one. However, a major concern has to be the growing discrepancy between hospital volumes and availability of well-trained, board certified physicians. Also, a growing number of uninsured or underinsured people commonly find their way to hospital emergency departments for even routine care. We hope our specialty can work with colleagues in medicine and policy makers in government to allow care to this group to continue.



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# Cardiac Arrest Outcome in a Tiered Response System

TIMOTHY PETERSON, M.D.

KEVIN KLAUER, EMT-P

Des Moines, Iowa

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***The Emergency Medical Service system must provide prompt CPR, early defibrillation and full advanced cardiac life support (ACLS) within the time 'window of effectiveness.' Timely availability of these combined components determines the chance for survival.***

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**S**UDDEN CARDIAC DEATH affects more than 350,000 Americans (1 per thousand population) each year. Less than 5% of these persons are successfully resuscitated.<sup>1,2</sup> Through a coordinated effort of prehospital and hospital emergency providers, survival to hospital discharge rates for ventricular fibrillation (VF) and pulseless ventricular tachycardia (VT) are reported at 25-30% in some areas.<sup>3</sup> Clearly, the ability to resuscitate is a function of time and availability of sequential and proficient cardiac life support.

Dr. Peterson is an emergency physician practicing at Iowa Methodist Medical Center, Des Moines. Mr. Klawer is a paramedic and a student at the College of Osteopathic Medicine in Des Moines.

In 1978 the Iowa Advanced Emergency Medical Care Act made a provision for paramedics to care for cardiac arrest patients outside the hospital in a similar way patients would be cared for in the emergency department. Such cardiac care available a few minutes sooner has been shown to save lives in Iowa. The EMT-D study conducted by the University of Iowa between July 1981 and June 1983 showed 19% of patients found in VF were successfully resuscitated in the field with early defibrillation and survived to hospital discharge.<sup>4,5</sup>

Iowa administrative rules under chapter 147.A have allowed defibrillation by ambulance services at the EMT-D level since 1983. The first responder defibrillation law was implemented October 1989. These actions have created the provision for timely defibrillation outside the hospital setting in many rural areas not immediately served by paramedics. In Iowa as of January 1991 there were 352 services with defibrillation capability (90 Paramedic, 41 Intermediate, 137 Basic and 84 First Responder).

## ***Study Methods***

Our study was a retrospective analysis of patients who had an out-of-hospital cardiac arrest and were brought to hospitals in Polk County from January, 1987 through October, 1989. During this time there were 5 basic life support, 3 EMT-ID and 1 EMT-I local ambulance services providing initial cardiac care for communities in western Polk and eastern Dal-

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las Counties. A tiered response system is a coordinated effort of responders at basic and advanced levels. The first service at the scene most often was the local community ambulance crew which initiated care at their level of certification.

Paramedics from County Paramedic Assist (CPA) were dispatched according to countywide system protocols and consisted of a 1 or 2 member team (at least 1 paramedic) in a rapid-response, 4 wheel drive, nontransport squad vehicle. All patients were transported in the local responding service vehicle. Polk County hospitals provided the intermediate and final outcome status for each patient received.

## Results

During the study period, 61 patients experienced cardiac arrest. Of these, 4 (6.5%) were due to trauma, 28 (46%) were medical other than cardiac and 29 (47.5%) were primary cardiac arrests. The following analysis and discussion refers to the 29 patients who had an arrest of cardiac origin (sudden cardiac death).

The presenting rhythms for the paramedics in this group were: ventricular fibrillation (VF) — 18 cases; pulseless ventricular tachycardia (VT) — 2 cases; asystole — 7 cases; electrical mechanical dissociation (EMD) — 2 cases.

None of the patients in asystole or EMD survived, but some in VF and VT did (Table 1). For the 20 patients in VF or pulseless VT, 8 (40%) came to the emergency department with a perfusing rhythm. Of these, 5 (25%) survived to hospital discharge. All the survivors were discharged home without neurologic sequella.

Patients in this study were categorized according to sequential intervention response times using the Eisenberg and American Heart Association guidelines for factors associated with survival predictability: CPR initiated within 4 minutes; defibrillation within 8 minutes and advanced life support within 10 minutes (paramedic or hospital level).<sup>6,7</sup>

Of the 20 patients in VF or pulseless VT the 5 survivors (average age 71 years) met each of the intervention time criterion. The 15 non-survivors (average age 68 years) failed to meet one or more of the criterion (Table 2). The first sequence failure in the non-survivor group is shown in Table 3.

## Discussion

The overall survival to hospital discharge for patients with sudden cardiac death in this study was 5 of 29 (17%). For the commonly recognized as treatable dysrhythmias VF and pulseless VT, 5 of 20 (25%) survived. The survival rate compares favorably to other studies and is a great improvement over the 0–5% seen less than 10 years ago prior to implementation of defibrillation and tiered paramedic response.<sup>1,3,4</sup> All survivors met the criterion for timely intervention sequences; all the non-survivors failed to meet one or more of the cri-

TABLE 1  
SURVIVAL FROM SUDDEN CARDIAC DEATH  
(All dysrhythmias in 29 patients)

Rhythm	Occurrences		Survival			
			To ER		Discharged	
	#	(%)	#	(%)	#	(%)
*V-Fib	18	(62)	6	(33)	3	(17)
*V-Tach	2	(7)	2	(100)	2	(100)
Asystole	7	(24)	0	(0)	0	(0)
EMD	2	(7)	1	(50)	0	(0)
overall:	29	(100)	9	(31)	5	(17)

\*Survival to discharge for V-Fib and V-tach = 5/20 or 25%.

TABLE 2  
TIME SEQUENCE CRITERION IN  
PREHOSPITAL RESUSCITATION

	Criterion Met as Follows			
	5 Survivors		15 Non-survivors	
	#	(%)	#	(%)
CPR within 4 min	5	(100)	4	(27)
Defib within 8 min	5	(100)	5	(33)
ALS within 10 min	5	(100)	14	(93)

TABLE 3  
PREHOSPITAL INITIAL TIME SEQUENCE FAILURE  
(15 Non-survivors in VF)

First Criterion in Sequence Not Met		
	#	(%)
CPR within 4 min	11	(73)
Defib within 8 min	3	(20)
ALS within 10 min	1	(7)
	15	(100)



terion. This study demonstrates the combined importance of bystander CPR, early defibrillation and full advanced life support within a timely and intervention sequenced Emergency Medical Service (EMS) system.

The basic elements of an effective EMS system remain simple: efficient dispatching, rapid response times, well-trained personnel,

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*'New technology and more highly trained and skilled pre-hospital providers are becoming state of the art.'*

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effective CPR, early defibrillation and a tiered response system that provides additional advanced life support in the field when appropriate.<sup>8</sup> It is evident that improving survival from out-of-hospital sudden cardiac death will depend on efforts to improve rapid access to EMS. This will require enhanced 911 systems, ongoing citizen CPR training and recertification, and improved response times through strategic placement of EMT providers and advanced life support units.

New technology and more highly trained and skilled prehospital providers are becoming state of the art. Physicians have many quality of care issues to monitor including EMT provider education, skill maintenance, availability of timely and appropriate level of care, cost efficiency and the effectiveness (outcome) of care given. Improved survival rates seem likely as we focus on the prehospital phase of patient care.

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# Laparotomy and Multiple System Organ Failure

JAN COURTNEY CLYDE, M.D.

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KIMBERLY S. EPHGRAVE, M.D.

Iowa City, Iowa

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*A retrospective review of laparotomies was undertaken to define the indications for abdominal procedures in patients with multiple system organ failure. This study suggests patients with (MSOF) must be thoroughly evaluated with non-invasive technology to determine the presence of an intra-abdominal septic focus prior to consideration of exploratory laparotomy.*

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**M**ULTIPLE SYSTEM ORGAN FAILURE (MSOF) as a distinct clinical entity was first described by Baue in 1975.<sup>1</sup> It was further defined and characterized by Eiseman and Cerra.<sup>2, 3, 4</sup> MSOF carries a grim prognosis entailing prolonged intensive care and significant mortality. Uncontrolled infection is the primary cause of MSOF.<sup>5-10</sup> Laparotomy may be necessary to eradicate intra-abdominal septic focus.<sup>11-14</sup> A retrospective review of laparotomies was undertaken to define the criteria and indications for laparotomy in MSOF patients.

The authors are associated with the University of Iowa Hospitals and Clinics Department of Surgery.

## Methods and Materials

A 5-year retrospective review of all patients treated in the Surgical Intensive Care Unit (SICU) at University of Iowa Hospitals and Clinics (UIHC) was undertaken. Thirty-five patients developed MSOF and subsequently underwent laparotomy. This group of patients formed the data base for this report. Criteria for the diagnosis for MSOF are outlined in Table 1.<sup>3</sup> All patients in this study had at least 3 organ systems involved.

The diagnosis of sepsis was made using criteria suggested by Sinanan.<sup>15</sup> These criteria are shown in Table 2. The patient was judged septic when 2 criteria from Group A and one

TABLE 1  
ORGAN FAILURE CRITERIA

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### Pulmonary Failure:

Ventilator dependence for at least 48 hrs post-operatively or need of mechanical ventilation at any time not associated with an anesthetic.

### Renal Failure:

Serum creatinine > 3 mg/dl or doubling of the admission serum creatinine.

### Hepatic Failure:

Serum bilirubin > 2-3 mgm%, and/or rise of hepatic enzymes to twice normal values (excluding the first 6 days of the post-operative period which could be secondary to anesthetic or blood transfusions).

### Cardiac Failure:

An acute myocardial infarction or inadequate cardiac output requiring pharmacologic support despite optimal volume load.

### Gastrointestinal Bleeding:

Requirement of 2U blood within 24 hrs, or documented bleeding by endoscopy or surgical confirmation.

### CNS Failure:

Unresponsive to verbal stimuli.

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**TABLE 2**  
**SIGNS OF SYSTEMIC SEPSIS**

<i>Group A</i>	
Rectal or temperature $\geq 39$ degrees Centigrade for 5 consecutive days.	
WBC's $\geq 12,000$ ; or $\geq 20\%$ shift to the left of WBC differential count.	
Platelets $\leq 100,000$ .	
One positive blood culture of a commonly accepted pathogen.	
Known or strongly suspected source of systemic infection (e.g. urinary tract, pneumonia, etc.).	
<i>Group B</i>	
Ongoing metabolic acidosis with an unexplained anion gap $\geq 20$ mEq/L; or base deficit $\geq 5$ mEq/L.	
Systemic vascular resistance $\leq 800$ dynes/cm <sup>-5</sup> .	
Unexplained hypotension (systolic BP $\leq 90$ mmHg for $\geq 2$ hrs).	
Ongoing requirement for vasopressors to maintain BP $\geq 90$ mmHg systolic.	

**TABLE 3**  
**PRE-EXISTING HEALTH PROBLEMS**

<i>Diagnosis</i>	<i>Percent (N)</i>
<i>Non-Survivors</i>	
COPD	23% (7)
Coronary artery disease	20% (6)
Diabetes	17% (5)
Cancer	10% (3)
Renal transplant	7% (2)
Renal/pancreas transplant	7% (2)
Cerebrovascular disease	7% (2)
Heart transplant	3% (1)
No Significant Health Problems	23% (7)
<i>Survivors</i>	
Type II diabetes and history of an MI	20% (1)
EtOH abuse	20% (1)
No Significant Health Problems	60% (3)

**TABLE 4**  
**SEPTIC COMPLICATIONS**

	<i>+ Blood Cultures</i>	<i>Systemic Sepsis</i>
Non-survivors (N = 30)	12/30 (40%)	21/30 (70%)
Survivors (N = 5)	1/5 (20%)	1/5 (20%)
Overall (N = 35)	13/35 (37%)	22/35 (63%)
Mortality	12/13 (93%)	21/22 (95%)

criterion from Group B were present simultaneously. Pre-existing illnesses in these patients are outlined in Table 3. The incidence of septic complications and positive blood cultures is shown in Table 4. Findings for directed and non-directed laparotomies were tabulated and shown in Table 5.

## Results

Thirty of 35 patients died, representing an overall mortality of 86%. The average age for this group of patients was 58 years. Twenty-three of 30 (77%) non-survivors had significant pre-existing disease prior to their final illness (Table 3). Two of five (40%) survivors had significant pre-existing disease prior to the illness resulting in MSOF (Table 3).

Infectious complications had a highly deleterious effect upon survival. Systemic sepsis was the proximate cause of 70% of all deaths, whereas only one of the 5 survivors showed systemic sepsis. Septic patients had an overall mortality of 95%. A positive blood culture was associated with a 93% mortality (Table 4). Thirty-five patients underwent 36 laparotomies which were categorized as either directed (a laparotomy indicated by positive radiologic imaging or definite clinical signs of intra-abdominal sepsis in conjunction with a febrile course and elevated white count), or non-directed (an exploration undertaking without clinical or radiologic findings in an effort to demonstrate an intra-abdominal focus of infection). Five of 24 (21%) patients who underwent directed laparotomies survived, while only one of 11 (9%) patients underwent non-directed laparotomies and survived. The difference in survivorship is not significant. All directed laparotomies were positive where 3 of 12 non-directed laparotomies were positive. All of the survivors had a positive directed laparotomy, and all 24 directed laparotomies were positive. Twenty-five percent of the non-directed laparotomies were positive and all of these patients died. One patient underwent a directed laparotomy and then was re-explored after resection of dead bowel at the first laparotomy. The second laparotomy was a non-directed negative laparotomy (Table 5).

## Discussion

These data demonstrate the grim mortality associated with MSOF. The study group

*(Continued next page)*

TABLE 5  
MSOF PATIENTS (N = 35)

N = 36	Laparotomies in 35 pts.	Survivors N = 5	Non-Survivors N = 30	Positive Laparotomy
Laparotomy				
Directed	(N = 24)	5 (21%)	19 (79%)	24/24 (10%)
Non-directed	(N = 12)	1 (9%)	11 (91%)	3/17 (25%)
		N.S.	N.S.	N.S.

Note: These numbers do not show a significant difference using either Chi<sup>2</sup> or Fisher's Exact Test.

had an overall mortality rate of 86%. This group was older and had more antecedent chronic health problems when compared with other studies of MSOF in young trauma patients.<sup>16</sup> Advanced age did not correlate with a worse prognosis. Pre-existing illness had a more significant impact on mortality than chronological age (see Table 3). Seventy-seven percent of the patients who died had significant medical problems prior to the onset of the final critical illness, whereas only 2 (40%) of the survivors had significant antecedent medical problems. This suggests the physiological condition of the individual is more important than the chronological age.

All survivors had directed, positive, laparotomies. They had a correctable intra-abdominal septic focus. The operation was a significant determinant of their recovery. The difference in mortality between the positive laparotomy group and the negative laparotomy group was not great (79% vs. 88%). In patients who underwent a directed, positive laparotomy there was a mortality of 79%, indicating MSOF has a grim mortality even after the correction of an intra-abdominal septic focus.


These data suggest non-directed exploratory laparotomies are not indicated in the patient with MSOF. The majority of these explorations were negative, and when they were positive the MSOF was irreversible.

Emphasis must be placed upon the prevention MSOF as there is no generally successful treatment for the patient with MSOF. Treatment at the onset of the initial illness and injury must be complete. All damaged tissue must be debrided, cardiac output restored, and injuries repaired and stabilized. Early mobilization and adequate nutrition must be instituted. Infections must be dealt with by means of aggressive and early debridement and adequate antibiotic therapy. Careful attention

must be directed to control of septic complications due to foreign body and nosocomial infections. We believe that in patients who develop MSOF, the criteria for laparotomy must be the objective identification of an intra-abdominal septic focus. Non-directed exploratory laparotomies are not indicated as either a diagnostic or therapeutic modality in the treatment of the patient with MSOF.

## References

References noted in this article are available from the authors or the editors of *IOWA MEDICINE*.



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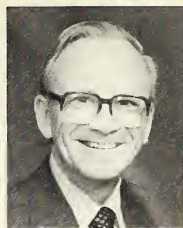
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## The Editor Comments

Marion E. Alberts, M.D.



# To the New Physician

JUNE IS THE TRADITIONAL MONTH of renewal. The spring rains and the warm sunshine bring forth new growth. Life is renewed by the rich green of the grass, the varied colors of flowers and the cheery songs of the birds. This month also ushers into the world the recent graduates of schools and colleges. Among those, of most interest to our profession, are the recent graduates of medical colleges. To them I offer a few bits of wisdom.

The science of medicine is much different from the art of medicine practiced at the patients' bedside. The tedium of formal training will wane as the enlightenment of "real" medicine waxes with each ensuing month and year of hospital residency training. This will become even more apparent during the ongoing years of medical practice. The learning process goes on, but in a more enriching manner; a manner that will enhance one's concept of what the "healing art" really is. If that concept is not embraced, the patients will suffer the consequences.

An old Arabian proverb quoted by Osler in his essay "Unity, Peace and Concord" decrees "He that knows not, and knows not that he knows not, is a fool. Shun him. He that knows not and knows that he knows not, is simple. Teach him." The charlatan and the quack are fools. Continue your process of learning, but embellish it with an ingredient often not emphasized in didactic medical training. The patient is not just a conglomerate of organ-systems; the patient has a soul.

Imagine the thought processes racing through the mind of a father stricken with an acute myocardial infarction. He has concern for his family, his job, his responsibilities

and his life. He faces possible death. Consider the young college student, the victim of an auto accident . . . barely conscious but aware of the severe facial lacerations which may mar her youthful beauty. Think upon the first time you have to inform a patient of incurable cancer, or an ongoing crippling disease such as muscular dystrophy. We physicians address ourselves to the damages to body parts, but what of the patient's fears? Have concern for the whole patient; yes, for the friends and relatives hovering nearby. That concern for the whole marks the compassionate doctor from the "health care provider" (as we are so often called today by government agencies and insurance companies).

Compassion, a vital ingredient to medical knowledge, demonstrates the faith the physician has within, for if the physician cannot accept the needs of the patient for spiritual help there is an emptiness in the caring process. The practice of medicine does have rewards, but as advised in Proverbs 23:4-5 "Do not toil to get wealth; surrender that personal ambition . . . for riches surely take wings like an eagle that flies heavenward." An anonymous philosopher once said, "The higher we soar on the wings of science, the worse our feet seem to get entangled in the wires."

You have learned much of the science of medicine. Now practice the art of medicine. Approach the ill and injured with helping hands, knowledge continually enhanced by an ongoing search for more practice skills and a faith that can be transmitted to the patient in a compassionate manner. Your strength and that of your patients will be ever renewed. — M.E.A.

Richard M. Caplan, M.D.



# A New Wave Approacheth

**A**HI, THE POWER OF THE written word! (Or sometimes even the unwritten word — in 17th century Scotland, potatoes were not eaten because that vegetable was not mentioned in the King James Bible.) The written words to which I refer concern the need for reform of the general education of the physician (medical school years). The passion for curricular reform surges over the nation about every 25 years, and a new wave approacheth. In an educational utopia, curriculum review and modification occur continually. In our real world of medical education, the process seems more akin to the sexual metaphor of a crescendo of tension, a climactic explosion and then a 20-year refractory period.

The indicators of growing dissatisfaction are clear, when measured by the number of words and articles appearing in speeches and articles I encounter. Sporadic grunts of dissatisfaction are perennial and easily ignored. But now the frequency and stridency of voices are on the increase, and some preliminary flickers of action have already occurred. The Association of American Medical Colleges has been holding symposia and issuing manifestos for several years. It, along with the AMA, does the accrediting of medical schools, and those 2 parent organizations have recently modified the requirements for accreditation substantially.

One of the most important changes obliges a school to place curriculum governance in a person or committee which will command educational resources (including

time) and declare what the educational process shall be for that institution. This contrasts with the more usual present arrangement in many schools of allowing individual departments to barter for curricular time and be in complete control of the content for that curricular segment, with no particular concern for its suitability in the overall educational experience.

It is almost a shibboleth to point to all the stunning, rapid modifications in our scientific knowledge and technological innovations. But additional pressures include: the similarly rapid demographic changes in the population of both patients and physicians; in public attitudes regarding issues that we call biomedical ethics; and in the many payment questions that affect the behavior of practitioners and force modifications in fees, practice groupings, hospital relationships, ambulatory work, malpractice and the degree of regulation to be exercised by a once-self-regulating profession that now finds its autonomy substantially reduced. With such enormous changes, our curricular modifications of the past 25 years, if any at all, may seem like little more than the proverbial rearrangement of deck chairs on the Titanic.

One constant, however, through all of these alarms and proposals is the need for physicians to be well trained in the attitudes and skills that will foster learning throughout a professional career. The major curriculum for all of us lies ultimately in the arena of CME. Medical school and residency serve to ready us for that ongoing educational job. To the extent they fail to do that, under old curricula or new, they indeed fail badly.

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Dr. Caplan is Associate Dean for Continuing Medical Education at the University of Iowa College of Medicine.

## Inappropriate Use of Anticoagulants

A 92-YEAR-OLD MALE was brought to the emergency room following an episode of slumping and slurred speech with right arm, leg and face paralysis. According to the attending physician, the patient was unresponsive at first but then moved his right arm, right leg and the right side of his face and spoke clearly.

Neurological exam was normal; diagnosis was TIA. Heparin 4,000 units IVP was given; this bolus was followed by 800 units IV per hour. A CT head scan was ordered for 2 days later when a mobile unit was available.

Progress notes written the day after admission stated the patient did not see clearly and did not look at the attending physician when he spoke. Yet, the patient followed all commands, though his left arm seemed weaker than his right.

The CT head scan the second day of admission showed a large hemorrhagic infarct in the right posterior parietal and occipital lobes. Anticoagulation was discontinued, but the patient died 2 days later.

### Reviewer Comments

Anticoagulants were inappropriately given to this patient because of recommendations regarding anticoagulation for neurologic events prior to a CT scan. Use of anticoagulants in the face of a cerebrovascular event warrants a CT scan to evaluate for hemorrhage prior to initiation of anticoagulation. The deterioration

of this patient was a probable adverse effect of anticoagulation.

A CT scan upon admission would have identified the nature of the CVA. If the patient had been transferred to another facility for a CT scan, his death may have been avoided.

This was determined to be a quality concern with an assigned severity level III. Severity level III is defined by HCFA as a potential quality problem with significant adverse patient effects. Heparinization of patients with

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*'Use of anticoagulants in the face of a cerebrovascular event warrants a CT scan to evaluate for hemorrhage prior to initiation of anticoagulation.'*

---

central nervous system events prior to CT scanning is a common level III quality problem encountered by physician reviewers. Symptoms of intracerebral subarachnoid or subdural hemorrhages may mimic a minor TIA or other more benign neurologic syndromes.

The general trend recently has been to be more conservative with anticoagulation with heparin for acute strokes.

For more information, contact Harold Adams, M.D. or Jose Biller, M.D. of the University of Iowa Stroke Service, 319/356-4110. Finally, the volume 95, number 2, February 1989 supplement of *Chest* contains 13 excellent articles about correct anticoagulation treatment.

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This article was written by Ron Terrill, M.D., an internist who practices in Marshalltown. Dr. Terrill is a reviewer for the Iowa Foundation for Medical Care.

## Dental Care for Low Income Children

**I**N IOWA, THE AVAILABILITY of dental services to low income children is limited. However, comprehensive dental services are available to children who are eligible for Medicaid's Early and Periodic Screening, Diagnosis and Treatment program (EPSDT). The EPSDT program requires a direct referral for a dental examination by age 3. Approximately 128,000 children are eligible to receive EPSDT services under Medicaid.

There are approximately 135,000 children under 200% of the federal poverty level who are uninsured for preventive health care services in Iowa. It can be expected these same children would also be uninsured for dental services.

Dental services for these children are even more limited than for Medicaid eligible children. The IDPH contracts with 3 publicly funded dental clinics to help support dental services for these children. Children whose families meet income guidelines receive dental services at no cost; other children receive services on a sliding fee schedule.

The Des Moines Health Center serves children from low income families in Polk, Madison, Dallas and Warren counties. Approximately 1,500 children received dental services during the past year.

The Dental Health Center of east central Iowa at St. Luke's Hospital in Cedar Rapids serves children from Linn and surrounding counties. The past year, nearly 1,200 children received dental services in this center.

Dental services are also an integral part of the health services available to children en-

rolled in the Community Health Care, Inc. community center in Davenport.

### *Local Dentists Reimbursed*

The IDPH also provides dental services as a component of the well child services for children enrolled in the state's Child Health Centers throughout Iowa. These centers are supported by federal Maternal and Child Health funds. Dental hygienists and nurses provide parental counseling, dental health education, screening and referral. Local dentists who provide services are reimbursed through the child health centers. About 4,200 children received dental services through child health centers in 1990.

Another resource for low income children is Broadlawns Hospital Dental Clinic in Des Moines. This clinic also serves as a training site for dental students from the University of Iowa. Approximately 200 children of families enrolled in the Family Health Center were served during the past year.

A dental program for children with developmental disabilities is jointly sponsored by the University of Iowa College of Dentistry, Department of Pediatric Dentistry and the Department of Public Health. Dental services are provided at the University Hospital School dental clinic and through 10 private dental offices located throughout Iowa; 140 children were treated through this program during 1990.

Despite dramatic gains in control of dental caries in the U.S. during the past 2 decades, nearly one child in 5 is at high risk of dental caries. Low income children are much more likely to have caries in need of restorative attention.

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This information on public health matters is furnished and sponsored by the Iowa Department of Public Health.



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## About Iowa Physicians

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**Dr. Michael Stein**, Iowa City, has been elected to fellowship in the American College of Cardiology. The following physicians were called to active duty to support medical personnel who were assigned to Gulf War duty: **Drs. David Ferguson** and **Peter Kirchner**, Iowa City, and **Dr. N.K. Pandeya**, Des Moines. **Dr. Kristen Wells** has joined **Drs. William** and **R. Josef Hofmann** at Davenport Medical and Surgical Eye Group and **St. Luke's Hospital** and **Mercy Hospital** medical staffs. **Dr. Wells** received the M.D. degree from University of Texas Southwestern Medical School, Dallas, Texas and served a residency at U. of I. Hospitals and Clinics. **Dr. Douglas Wells** has joined Anesthesia Associates and **St. Luke's Hospital** and **Mercy Hospital** medical staffs, all in Davenport. **Dr. Wells** received the M.D. degree at the University of Melbourne in Australia. **Dr. Charles Preacher**, Davenport, has retired as medical director of **St. Luke's Hospital Laboratory**. **Dr. Preacher** served as director for 35 years. **Dr. Eugene Johnson** has been installed as president of the Scott County Medical Society. Other officers include **Drs. Mary Hoppa**, president-elect; **Susan Perry**, secretary and **Carol Walton**, treasurer. **Dr. Herbert Gearhart** was recently honored by a surprise breakfast party for his 25 years of medical practice in Hopkinton. **Dr. Mark Hull**, Davenport, has been elected to serve as medical staff president at **Mercy Hospital**. **Dr. Prakash Khot** has begun practice in Marengo. **Dr. Khot** received the M.D. degree from Nagpur Medical College in India and practiced in Galesburg, Illinois for 17 years before locating in Marengo. **Dr. Ronald Charles** has joined the Grinnell General Hospital medical staff. **Dr. Charles** received the M.D. degree from the University of Natal, Durban, South Africa and completed an orthopedic surgery residency at Albert Einstein College of Medicine, Bronx, New York. **Dr. Peter Palsha** has begun family practice in Bloomfield. **Dr. Palsha** received the M.D. degree from Charles University, Prague, Czechoslovakia. **Dr. Kenneth Follett**, assistant pro-

fessor of neurosurgery at the U. of I. College of Medicine, was recently given the 1991 Young Clinician Investigator Award by the Research Foundation of Neurological Surgeons. **Dr. Follett** received the grant at the association's annual meeting in New Orleans, Louisiana. **Dr. James Jeffries**, Waterloo, has joined **Dr. Kenneth McMains** in the Occupational Health Services Department of **Allen Memorial Hospital** in Waterloo. **Dr. Mary Pat Rosman**, Dyersville family practitioner and medical director at the John McDonald Treatment Unit, was recently certified by the American Society of Addiction Medicine. **Dr. John Tyrrell**, Manchester, has been appointed to a 6-year term on the Iowa State Board of Regents. **Dr. Brian Sires** has begun neurology practice at **Allen Memorial Hospital**, Waterloo. **Dr. Sires** received the M.D. degree from the U. of I. College of Medicine and completed a residency in Wake Forest, North Carolina. **Dr. Carlos Perandones**, an Argentine researcher in the production of antibodies, has been awarded the 1991 Houts-Arthritis Foundation Fellowship at the U. of I. College of Medicine. **Dr. Perandones** will spend a minimum of 2 years in the Department of Internal Medicine.

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## Deaths

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**Dr. James Skultety**, 78, West Des Moines, died April 5 at **Mercy Hospital Medicine Center**. **Dr. Skultety** received the M.D. degree from Creighton University School of Medicine, Omaha, Nebraska and practiced medicine in Des Moines for over 50 years. He was a member of the National Association of Family Practitioners and a life member of the Iowa Medical Society.

**Dr. Harlan Berthelsen**, 71, died March 27 at **Grove General Hospital** in Grove, Oklahoma. **Dr. Berthelsen** practiced in Rock Valley until his retirement in 1983.

## Letter to the Editor

### Physicians Are 'Captains of the Ship'

Dear Editor:

It is time for reflection. Just what part of the current medical care dilemma have we medical people caused?

In the late thirties and early forties when government first began to take care of the medically indigent, they did it by giving money to the medically indigent and hopefully the recipients of care would pay the physicians. That didn't happen too often and, therefore, the medical profession begged for and did finally develop the vendor payment program whereby the third party payor paid the physician rather than the recipient of the service. We, as a profession, asked for that. I remember standing on the floor of the House of Delegates to the Iowa Medical Society and saying we were selling our souls down the river. That has happened. And because we have also helped to create the Blues, we have taught recipients of medical care to lose all sense of individual responsibility. Therefore, we now have over-utilization which is one of the sources of the great cost of medical care.

To bring us to date, the most recent problem we have participated in is multiple subspecializations. Now when a patient needs care, that patient usually needs to support multiple doctors — rather than one doctor — financially. I have a difficult time obtaining a consultative service in these days. Due to peer pressure, I frequently ask for help for things that I formerly did myself. But when I ask for help in the form of consultation, it actually ends up being a referral because the doctor whom I ask for consultation seems to know nothing about consultation — only a referral. A good example is: I formerly would pack a retropharyngeal epistaxis. Now, I can refer it to an otolaryngologist and before I see the patient again, that patient has probably seen a cardiologist and hematologist. The multiple providers involved raises the cost of medical care markedly.

True, you can say the tort system has created this, but I think we, as physicians, are the "captains of the ship" and could help slow

some of this progress. This, of course, is the basis for the managed-care philosophy that is gaining some popularity, and necessarily so because of the multiple physicians required to provide care for an individual case in these days.

I think it is time for reflection to see if we as physicians can help regulate a system that I believe is getting out of hand. I am well aware of technology, the tort system and all the other causes — but we must regulate this in some manner or we will lose complete control of the system. — *John Sunderbruch, M.D., Davenport, Iowa.*

### LETTERS TO THE EDITOR

If you have a comment regarding something you've read in *IOWA MEDICINE* or an observation on conditions affecting the practice of medicine in Iowa, don't keep it to yourself. Share your thoughts in a letter to the editor. We'd like to hear from you.

### Search for New U of I Dean Begins

The Search Committee for the dean of the University of Iowa College of Medicine is asking for assistance in the process of searching for a new dean. The committee believes it is important to have the perspective of physicians and health professionals across Iowa, particularly with regard to important aspects of the position and the necessary qualities and attributes of a new dean.

Please share your thoughts with the committee by writing: David Skorton, M.D., Search Committee for the Dean, College of Medicine, 431 Eckstein Medical Research Building, University of Iowa, Iowa City, Iowa, 52242. (319) 335-6550.

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# Classified Advertising

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## Head Injuries a Serious Public Health Problem

**I**N THE LAST DECADE, 581 motorcycle riders have been killed and thousands of others injured on Iowa's roadways; 83% were not wearing protective headgear.

In the United States, traumatic injury is the leading cause of death for persons up to the age of 44 and motor vehicle crashes are the single most common cause of injury.

Many have suffered permanent head injuries resulting in enormous cost to themselves and society. Because of the number of injuries and costs of those injuries, motorcycle crashes are a serious public health problem.

### *Helmets Reduce Head Injuries*

Data from several studies have shown helmets to be effective in prevention and reducing the severity of head injuries by a factor of 2 or more. One of these is the Iowa Cycle Injury Study (ICIS) funded by the U.S. Department of Transportation National Highway Traffic Safety Administration.

The ICIS was conducted through Iowa Methodist Medical Center in Des Moines under the guidance of emergency room physician Tim Peterson, M.D. and Kim Royer, R.N. According to Dr. Peterson, a member of the IMS Committee on Emergency Medical Services, data for the study was collected during a 6-month period from April through September, 1989. The data came from persons involved in a motorcycle, moped or bicycle crash who sought care at hospitals in Burlington, Cedar Rapids, Council Bluffs, Des Moines, Dubuque, Iowa City, Sioux City or Waterloo.

Data collected from 683 Iowans involved in motorcycle, moped or bicycle crashes show that riders without helmets who die in a crash

have head injury rates of over 3 times greater than those wearing a helmet. Despite their proven effectiveness, the study showed, 77% of motorcycle riders, 89% of moped riders and 93% of bicyclists do not wear helmets.

### *Majority of States Have Helmet Laws*

Currently, Iowa is one of 5 states without a helmet law. Iowa's rate of death associated with head injuries is the highest in the nation. Death is the outcome for only 1% of motorcyclists, but disability related to nonfatal injuries is extensive. Much of this cost is borne by the public.

The challenge of reducing head injuries from 2-wheeler crashes is not being addressed in Iowa. This challenge will require public education in our schools and in the media regarding the potential effectiveness of helmets.

"Enactment of a comprehensive helmet law for all cyclists using the public motorways has been shown to more than double the usage rate," comments Dr. Peterson. "Such a law would make a considerable impact on reducing the tragedy and costly burden of head injuries in Iowa."

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June 1991

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Iowa Medicine

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## President's Privilege

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R. Bruce Trimble, M.D.



# Reflections on the IMS Annual Meeting

**S**EVERAL OBSERVATIONS CAME TO MIND when I reflected on the 1991 meeting of the House of Delegates.

The resolutions were reasonably divided between "public health" and "business" issues — both are important. Those who heard the formal presentations on Saturday morning, read the committee reports in the Delegate's packet and listened to the discussions came away well-informed on a variety of important topics. Even the best informed heard a new fact or perspective.

As is the case every year, thoughtful comments by individuals resulted in substantial modification of reference committee reports or adoption of new policies. One person can make a difference.

There were more contested elections than in the last few years. This is healthy. It takes courage to run for a contested office and risk defeat. We all owe thanks to those who ran; we would have been well served by any of them.

The Board of Trustees in May reviewed House of Delegates' actions and assigned them to appropriate committees. They will become the basis of legislative initiatives, public education and public policy state-

ments. Next April, as always, we will review the year's activity to be sure we have done our work.

Attendance this year was about as it has been for several years — fairly good but not great. Several large counties did not send full delegations. Some counties, mainly those without organized county societies, had no representatives. The ad hoc committee recently appointed to review councilor districts, as required in reapportionment years, will look at these issues of representation and attendance.

You can also do something as an individual. Ask your county society president about being a delegate next year. Or just come down, listen to the speeches and discussions, say your piece at a reference committee, perhaps come to the banquet or scientific program. It might get in your blood.

A handwritten signature in dark ink that reads "R. B. Trimble". The signature is stylized with a large, looping initial "R" and a cursive "B".

R. Bruce Trimble, M.D.  
President



*"Too many people still believe that trusts are just for the wealthy. I want to debunk that myth!"*

Charles R. Schwab  
Chairman

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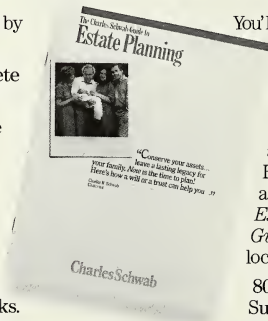
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# 'Being a Good Physician Is Not Enough'

ROBERT WHINERY, M.D.

Iowa City, Iowa

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*An immediate past president reflects on his year in office and the problems in our health care system.*

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**H**OW FAST A YEAR HAS gone by. The last time I stood before you it was a Sunday morning and I said I'd give a sermon, I'll probably do it again. A sermon is supposed to stimulate and educate — I think Iowa medicine needs both.

I've reflected on past IMS presidents' speeches heard over many years. I remember the frustration of Dan Youngblade as his carefully prepared speech was covered quite completely by the then AMA president. I carefully noted Dr. Ring's speech today. A most memorable speech was given by Denny Walter — "Stations." It was a classic and very thought provoking, perhaps because it hit so close to home. It's worth re-searching if you didn't hear it.

I don't know many answers to medicine's problems, but I think I know how to go about seeking them. The problems are easy to find; the solutions are infinitely harder.

In many ways, Iowa physicians are more homogeneous than in other states. Most were either raised in Iowa or had Iowa

ties to pre-med, medical school, internships or residencies. It's why many of the inter-professional problems of other states are not ours. Yet, we differ in age and type of practice. Your situation determines how you view medicine's problems. Many older physicians have seen the best of private medicine while some younger ones know only government, peer review and fee setting. A third group, probably the majority and the most frustrated, have experienced some of each.

How did medicine get into this mess? It's a combination of large advances in medical technology, an aging population, increased liability claims, a change in posture of insurance companies, the competitive bent of hospitals, health demands by business, labor and consumer groups and the politicians' response to special interest groups. In Medicare, the legislators have become our regulators.

In some circumstances we've done it to ourselves. We fought Medicare and then we bought it. Carte blanche charges and big buck docs have helped make doctor bashing a popular game. Unfortunately, the bad apples make the headlines. The national practitioners data bank is one outcome. We see the proliferation of seminars on how to beat the CPT coding and billing system. I call it 'creative billing' and it may give Medicare its next black eye.

However, I'm sure our patients would be upset if they knew of harassing third party regulators and what's done to save a few dollars on a hospitalization. They would be appalled to know how much time physi-

*(Continued next page)*

cians spend on the phone and writing letters justifying their actions.

To quote former Surgeon General Koop, "There's exasperation on both sides of the stethoscope." What can we do about it?

Last year I asked the IMS Auxiliary to push you, to teach physicians how to be politically active, to encourage community involvement outside the office. We must improve our image and listen to our patients. We could take a lesson in this regard from dentists, optometrists and chiropractors.

We must understand the social, economic and political climate in which we live. Being a good physician is not enough.

As I said before, the problems are apparent, the solutions more complex. I'm reminded of a story concerning a popular eastern university psychologist. He traveled America giving his acclaimed series, "The 10 Commandments of Child Rearing." However, as time passed he and his wife had their first child and shortly thereafter his lectures were retitled, "Some Hints in Child Rearing." After their second child the series was called "A Few Tentative Thoughts on Child Rearing" and when the third child was born he cancelled the series.

We will have some "heat" on our reference committees today and perhaps muddy

the problems and solutions a bit. As your president, the greatest problem I faced was Iowa physicians' relationship with the Iowa Foundation for Medical Care. We appointed committees and held meetings. Some things are better and I hope this trend will continue. I believe there has been educating on both sides — what's wrong and what the limits are on changing things. It's easy to criticize until you're involved.

There are some big medical decisions to be made in the near future. Rationing care is one and physicians should make these rules.

Don't give up. Continue to fight for what you believe in. There's my old "organized medicine song," but I believe it. Don't just join the IMS and AMA but be active in them. I'm excited to see increased interest and participation this year. More doctors are running for office and speaking out on issues. Don't just leave it to the "old guys."

This medical society is lucky. You have a very strong and dedicated staff. Your board of directors works hard and we will have a marvelous leader in Bruce Trimble.

Medical practice will and must change. It will still be exciting, rewarding and appropriate. We must guide these changes.

Thank you for the opportunity to be your president.



(From left) Robert Whinery, M.D., past IMS president and his wife Joyce with R. Bruce Trimble, M.D., IMS president, and Diane Trimble at Saturday evening's President's Reception.

# We Are a 'Serving Profession'

R. BRUCE TRIMBLE, M.D.

Mason City, Iowa

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***The Iowa Medical Society speaks most effectively when it speaks for patient welfare issues rather than pocketbook or turf issues, says the new IMS president.***

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**T**HE IOWA MEDICAL SOCIETY has had a good year. I intended to describe Bob Whinery's stewardship in terms of sight and vision, but that has already been done at length this weekend so I will simply say that he has been a thoughtful leader and a good spokesman for Iowa medicine.

I want to thank all of you for electing me president of the Iowa Medical Society. It is a very great honor to be elected to represent one's peers. It is also a great responsibility and I have thought quite a bit recently about how the Iowa Medical Society represents Iowa physicians and what it is about medicine and ourselves we want to present to the world.

We live in an open, rapidly changing society. Because health care is important and resources are limited, many groups wish to influence how medicine is practiced and financed. Your legislative committee, officers, staff and lobbyists spend much time defending medicine's autonomy, authority and financial interests. We do this in the legislature, before regulators and administrators, on various boards and task forces and in dis-

cussions with other associations. We do not win all the battles. Overall, however, we do this quite well, although frequently without getting much attention. Winning defensive battles, after all, only maintains the status quo and is not very exciting. The IMS defends physicians' turf and pocketbook interests without apology. These interests are legitimate and, as Rabbi Hillel pointed out 2,000 years ago, "If I am not for myself, who will be for me?"

But, defending turf and pocketbooks, no matter how well done, is ultimately not very fulfilling. Hillel went on "but being for myself only, what am I?" If we only defend our business interests, how are we different from the many other groups who also push and shove to advance their turf and pocketbook concerns? As physicians we know what we are — we are a serving profession concerned for our patients' welfare and the public health. We expect our professional association to reflect those values.

I am very proud of our legislative public health agenda, Medicare Partners, the efforts we and the Auxiliary have made to address adolescent health care issues and the work we do in numerous committees to improve the public's health and quality of life. Not all issues are clear cut, of course. In some, such as tort reform, public and professional considerations are aligned. In others — reform of the health care system, for example, where the price exacted for wider access may be very tight expenditure controls — we must balance self-interest and public concerns in formulating a position.

Perhaps, paradoxically, we do well for ourselves when we speak most strongly for

*(Continued next page)*

the public good. The Iowa Medical Society represents 4,000 individuals in a state of 3,000,000. In 'them and us' terms, there are more of them than us. On turf and pocketbook issues, we can be seen as one small group with no particular claim to preference competing with many larger interests. In each such battle, we use up a certain amount of political capital. When, however, we speak for patient and public welfare or to the medical aspects of issues, we speak with unique authority and are heard with great respect. With the public health agenda and similar programs, we build political capital.

Although we may reap some political benefit from addressing the public's health needs, that is not really why we do it. We do it because it is our obligation as the profession of medicine and because that is what we believe in as individual physicians. Last year during the legislative debate on

our proposals for tightening smoking restrictions, a doctor called to ask for further information. He and his wife planned to write their legislators and to have their children write also. They had never previously discussed any issue with a legislator. He had not been interested in IMS defensive legislative issues, but this public health issue touched a chord. We will continue to look for and to push such issues. It was good to see a number of them discussed here this weekend.

This is spring time in Iowa and it is perhaps appropriate to use a farming analogy. Public service and patient welfare issues are our main crops. Harassment and reimbursement problems are weeds and bugs. We will deal with them but we will also keep them in perspective.

Thank you again for electing me president. I'll need your input.

## The Fight We Must Win!

*Editors' Note: This article consists of excerpts from a speech by John Ring, M.D. of Mundelein, Illinois, AMA president-elect, to the IMS House of Delegates, April 20.*

**T**ODAY, I ASK YOU to think about the thing physicians in Iowa and around America have in common — our commitment to medicine. This commitment to our art, our science, our profession is the central force that binds us together. But, I must warn you that our professionalism is being threatened.

We're used to threats . . . threats like government regulation, professional liability suits and hassles by third parties. But this one is different. It is more subtle and dangerous because it is gradual. It is driven by people who for mostly economic reasons want to see medicine reduced to the status of a trade or business venture.

To do this, they must reduce the profession of medicine to a level where much of the respect we enjoy is gone. Perhaps we're helping them. How many times can we hear ourselves called ven-

dors or providers before we start thinking that's all we are? Our professional freedom is at stake.

The truly compassionate physician is one who shares the patient's burden — lifting it when possible and making it lighter when that is all that can be done. It is the burden-sharing — the compassionate human connection — that has always made medicine such a fulfilling profession. We must pull together to preserve all that is good about this noble profession of ours!

What can you do to preserve professionalism? Put your patients first and stay active in the family of medicine. The IMS and the AMA need you. We need your support so we can represent you as we fight for physicians' professionalism.

Finally, be aware that there are folks out there who'd love to see professionalism disappear from the medical scene. There are competitive pressures on us that could diminish our professionalism. Let's not let it happen! We're going to fight to maintain it and we're going to win because of organizations like the Iowa Medical Society and people like you.



# Vital Health Issues Addressed at 1991 House

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*Following is a summary of proceedings when physicians from across Iowa gathered April 20-21 for the 1991 IMS House of Delegates.*

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**T**HE 1991 ANNUAL MEETING of the Iowa Medical Society House of Delegates was held April 20-21 in Des Moines. House sessions were chaired by William Rosenfeld, M.D., speaker. Open hearings were conducted by 3 reference committees on April 20. President Robert Whinery, M.D., was master of ceremonies for the IMS Annual Banquet April 20.

At the banquet, Dennis Walter, M.D., Des Moines, received the 1991 IMS Merit Award. The John F. Sanford award was given to Roger Tracy, director of the Office of Community-Based Programs at the University of Iowa, in recognition of his achievements in the area of physician recruitment and placement.

## *April 20 Session*

Registered for the April 20 session of the House were 154 delegates and alternate delegates. Minutes of the April 22, 1990 House of Delegates were approved as summarized in the July, 1990 issue of *IOWA MEDICINE*.

Reports contained in the 1991 House of Delegates handbook were approved with the exception of 8 supplemental reports from IMS committees and task forces which were referred to appropriate reference committees.

John Ring, M.D., president-elect of the American Medical Association, addressed the House of Delegates. William Eversmann, M.D., chairman of the IMS Board of Trustees, presented checks totaling over \$18,000 to John Eckstein, dean of the University of Iowa College of Medicine. The funds were provided by the AMA Educational and Research Foundation, with most of the funds raised through the efforts of the IMS auxiliary. Over half the money is designated for medical student assistance; the remainder can be used at the discretion of the Board.

Robert Whinery, M.D., outgoing IMS president, addressed the House. His remarks appear elsewhere in this issue.

Thirty-four resolutions were submitted to the House and referred to reference committees. Actions taken on the resolutions are reported subsequently.

## *Supplemental Reports*

Informational reports from the Board of Trustees, the Necrology Committee, the Nominating Committee, the Committee on Legislation, Iowa Medical Political Action Committee, Iowa Medical Foundation, IMS Services, Iowa Physicians Mutual Insurance Trust, Blue Shield, Iowa Foundation for Medical Care and the Society's delegation to the AMA were presented and referred to the reference committees.

## *Life Members*

The following physicians were elected to life membership in the Iowa Medical Society:

*(Continued next page)*

Russell Blanchard, M.D., John Blumgren, M.D., Thomas Board, M.D., Russell Gerard II, M.D. and Carl Hanson, M.D., Waterloo; Josef Martin, M.D., Carroll; Franklin Kapke, M.D., Mason City.

Emmett Ayers, M.D., Charles City; Albert McKee, M.D., Paul Seeborn, M.D. and Arthur Wise, M.D., Iowa City; William Catalona, M.D., Muscatine; Frederick Sperry, M.D., Clarinda.

John Rhodes, Sr., M.D., Pocahontas; John Hess, Jr., M.D., Noble Irving, M.D., Harold Klockslem, M.D., Robert Reed, M.D. and Robert Stickler, M.D., Des Moines.

Edward Anderson, M.D., Davenport; Robert Kuhl, M.D., Creston; Paul Stitt, M.D., Fort Dodge; Robert Ashmore, D.O., Frederick Stark, M.D. and Omar Stauch, M.D., Sioux City.

Emeritus membership in the Iowa Medical Society was accorded to 49 physicians.

The speaker presented information on the reference committee hearings, election procedures and the concluding session of the House.

### *April 21 Session*

Registered for the April 21 session of the House were 142 delegates and alternate delegates. Minutes of the April 20 session were read and approved.

**Hermine Habak**, immediate past president of the IMS Auxiliary, spoke to the delegates about Auxiliary projects during her term.



One hundred and fifty-four physician delegates and alternate delegates from across Iowa registered for the Saturday, April 20 session of the House of Delegates.



Several of the 1991 IMS life members attended Saturday's banquet and received their life member plaques: (front row, from left) Albert McKee, M.D., Iowa City; Harold Klockslem, M.D., Des Moines; and John Hess, Jr., M.D., also of Des Moines; (back row, from left) Robert Kuhl, M.D., Creston; Robert Stickler, M.D., Des Moines; and John Rhodes, Sr., M.D., Pocahontas. (The complete list of 1991 life members appears at left).

The following physicians were elected or reelected to the positions noted:

**President-Elect:** William Eversmann, Jr., M.D., Cedar Rapids.

**Vice-President:** William McMillan, M.D., Ottumwa.

**Speaker of the House:** Donald Kahle, M.D., Dubuque.

**Vice Speaker of the House:** Tom Throckmorton, M.D., Spencer.

**Trustee:** Joseph Hall, M.D., Des Moines.

**AMA Delegates:** John Anderson, M.D., Boone and Dennis Walter, M.D., Des Moines.

**AMA Alternate Delegates:** William Rosenfeld, M.D., Mason City.

Six District Councilors were also chosen:

**District 3** — Eugene Kerns, M.D., Davenport; **District 6** — Steven Erickson, M.D., Cedar Falls; **District 10** — James Black,

M.D., Marshalltown; **District 11** — Leo Milleman, M.D., Ames; **District 13** — John Fernandez, M.D., Council Bluffs; **District 16** — Kathryn Opheim, M.D., Sioux City.

The speaker complimented the reference committees. Following adjournment of the House of Delegates, R. Bruce Trimble, M.D., was installed as president of the IMS for the coming year. His inaugural comments ap-

pear elsewhere in this issue. Organizational meetings of the Board of Trustees and the Judicial Council occurred following Dr. Trimble's installation.

### **House Actions**

The IMS will take the following actions based on House consideration of reports of the Reference Committees on Legislation, Medical Service and Reports of Officers/Miscellaneous Business.

### **Peer Review Organization**

□ The IMS will withdraw its representation on the Iowa Foundation for Medical Care (IFMC) Provider Advisory Committee and establish an IMS Peer Review Organization (PRO) Study Committee. This committee will provide an annual report to the IMS House of Delegates.

□ The IMS will meet with specialty society leadership to develop and adopt a reviewer recruitment plan to help alleviate the specialty reviewer shortage.

□ The IMS will continue educating its members as the PRO program changes; the IMS Board of Trustees will consider the best methods for this education.

□ The IMS will continue to provide PRO process assistance for IMS members; the IMS supports formation of a physician service center by the IFMC.

□ IMS Services will continue analyzing the feasibility of a legal assistance program for IMS members and report back to the IMS Board of Trustees.

□ The IMS believes that, whenever possible, review of a physician should be done by a physician in the same specialty.

### **Public Health**

□ The IMS strongly encourages the state to provide immunization vaccines to physician offices at no cost; physicians are encouraged to administer these vaccines at no cost to the patient.

□ The IMS adopts AMA policy in support of legislation providing that persons under 21 who are convicted of operating a motor vehicle while under the influence of drugs or alcohol have their driver's license suspended or revoked.

□ The IMS supports creation of drunk driving treatment programs for persons under age 21.



Voting for 1991-92 officers took place before Sunday's House Session.

□ The IMS supports the AMA's "Healthier Youth by the Year 2000" project to reduce deaths among young people due to alcohol-related motor vehicle crashes.

□ The IMS will continue participating in the Tobacco-Free Coalition and support efforts of the coalition and other groups to help reduce tobacco use by all people, particularly Iowa youth.

□ The IMS Committee on Alcohol and Drug Use and the Committee on Sports Medicine will continue efforts to prevent use/abuse of alcohol and drugs.

□ The IMS will work to reduce barriers to HIV testing and encourage use of universal precautions.

### **Third Party Payors**

□ The IMS reaffirms its policy of protecting the physician/patient relationship and protecting the quality of care from undue influence by third party payors and utilization review organizations.

□ The IMS supports AMA anti-hassle legislation to dismantle the bureaucracy of government sponsored insurance programs.

□ The IMS supports the following AMA policies: 1) continue to monitor HCFA's pilot project on review of physicians' office care; 2) continue to seek amendments to the PRO law prohibiting expansion of review into physicians' offices; 3) insist, should enactment not be obtained, any office review be

*(Continued next page)*





These past IMS presidents enjoyed coffee and conversation before Sunday's House of Delegates session: (at left) Daniel Youngblade, M.D. of Sioux City with Dennis Walter, M.D., Des Moines. Dr. Walter was this year's IMS Merit Award winner.

non disruptive and based on review by peers, be logical and based on medically sound measures of process and medical outcomes; 4) insist physicians be compensated for administrative cost required to complete such review.

- The IMS and its AMA delegates will work to ensure third party payor review criteria is based on medical judgments developed by practicing physicians.

- The IMS reaffirms that third party payors should release medical review criteria to physicians.

- The IMS encourages member physicians to consider the ethical implications of signing agreements with third party payors.

- The IMS supports the position that federal and state health care dollars go toward patient care and not unreasonable administrative costs.

- The IMS will 1) continue to work with the state insurance division to develop rules to alleviate problems of utilization review, specifically rules that will require release of medical review criteria and 2) continue to monitor the utilization review situation.

## ***Tort Reform***

- The IMS will support legislative efforts for tort reform to make obstetrical services available to all women in communities near their homes.

- The IMS will seek immunity from malpractice liability for physicians who pro-

vide medical service on a voluntary basis without economic compensation.

- The IMS and its delegates to the American Medical Association will continue working for legislation which results in tort reform.

## ***Physician Supply***

- The IMS supports meaningful legislative initiatives to obtain funding from state grants and low interest loans for communities wanting to attract and establish new physicians in the private practice of medicine in Iowa.

- The IMS urges the Committee on Delivery of Health Services and the University of Iowa College of Medicine to continue exploring strategies to help recruit and retain primary care physicians in Iowa, including the possibility of developing primary care networks similar to the family practice residency program.

- The IMS commends the Committee on Delivery of Health Services and the University of Iowa College of Medicine for their efforts in addressing manpower issues in Iowa.

## ***IMS Business***

- The IMS will continue its current format for the annual meeting.

- The IMS accepts a Board of Trustees recommendation that IMS dues for 1992 remain at \$350 per member.

- The IMS Judicial Council will investigate the viability of a reciprocity membership agreement between the IMS and the Iowa Osteopathic Medical Association and report to the 1992 House of Delegates.

- The IMS will survey House of Delegates members to determine the level of support for alternating sites for the House of Delegates meeting.

- The IMS adopts a policy whereby all Society publications and communications avoid the use of terms "provider" when referring to physicians and "consumer" when referring to patients.

## ***Care of the Elderly***

- The IMS and its delegates to the AMA will work on legislative and regulatory efforts to modify the laws that have resulted in the current regulatory burden on nursing



home practice and remove unnecessary federal and state involvement in patient care in these institutions.

□ Appropriate IMS committees will 1) review the standards and operations of well elderly clinics, including the reporting requirements; 2) investigate methods for well elderly clinics which may be more cost effective; 3) request from the State Department of Health data which would document the effectiveness of well elderly clinics; 4) report to the IMS Executive Council, with all decisions adopted being subsequently reported to the House of Delegates.

### *Forensic Medicine*

□ The IMS will work with the State Board of Medical Examiners to simplify the state's death certificate form.

□ The IMS supports sufficient state funding of the state's medical examiner system, including adequate compensation of the state medical examiner and deputy examiners, a system of assistance and support for county medical examiners and training for county medical examiners.

□ The IMS supports accreditation of the Iowa's state medical examiner system by the National Association of Medical Examiners.

### *Emergency Services*

□ The IMS believes the goals of local and state emergency medical services systems should be to ensure that quality serv-



U.S. Senator Charles Grassley was a guest speaker at the annual banquet.

ices at an appropriate level are available to all Iowans. Medical control of this system is essential. The most urgent need is greater involvement of the medical community in developing solutions to emergency medical care issues.

□ The IMS believes the state should permit local franchising of emergency medical services with strong medical control assured in the legislation.

### *Miscellaneous*

□ The IMS adopts AMA policy regarding the Joint Commission on Accreditation of Hospitals relating to review standards and procedures.

□ The IMS and its delegates to the AMA will oppose any attempts to create a National Health Care Plan which establishes any single program responsible for health care delivery in the United States.

### *Referred*

□ The following resolutions were referred to various IMS committees by the House of Delegates: 1) a resolution requesting legislation or administrative rules requiring autopsies in cases of death of any child under age 5; 2) a resolution calling for universal screening of newborns for toxic, addictive drugs; 3) a resolution which asks the IMS to do a retrospective study of emergency and hospital admissions involving chemical dependency or intoxicated patients.

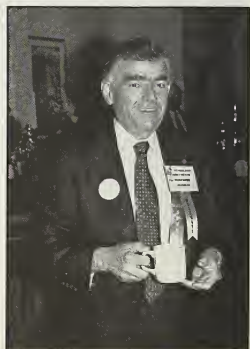


Dr. John Rhodes, Sr., Pocahontas, and his wife, Phyllis, enjoy the banquet.



## Annual Meeting Snaps

Clockwise, from above . . . The Scientific Session Program Committee poses at Friday's luncheon — (front row, from left) Richard Caplan, M.D.; Lila Furman, M.D., Leo Plummer, M.D. (chairman); (back row, from left) Robert Whinery, M.D.; luncheon speaker Max Rauer of KCCI-television; Daniel Youngblade, M.D. and William McMillan, M.D.; (The Iowa City Contingent) Carol Aschenbrener, M.D., chairman, IMS Board of Trustees, with Dr. and Mrs. John Eckstein; R. Bruce Trimble, M.D. poses with his family following his installation as new IMS president Sunday, April 21; Dr. and Mrs. Paul Seeböhm at Saturday evening's President's Reception; James Stiles, M.D., chairman of the IMS Committee on Substance Abuse, waits for Saturday's House of Delegates session to begin.







Clockwise, from left . . . Scientific Session speaker Val Sheffield, M.D., Ph.D. with his son Isaac, the youngest Scientific Session attendee; Dennis Walter, M.D., the 1991 IMS Merit Award winner, with R. Bruce Trimble, M.D., incoming IMS president; from left, (The Sioux City Contingent), Robert Boldus, M.D., Kathryn Opheim, M.D. and John Redwine, D.O.); the Old Gold Singers from the University of Iowa provided excellent entertainment at Saturday evening's banquet; from left, (The Cedar Rapids Contingent), Albert Coates, M.D., Dan Langfield (Linn County Medical Society executive director) and William Eversmann, Jr., M.D., IMS president-elect.

R. Bruce Trimble, M.D.



# So Far, It's All Talk

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*The author, a member of the Iowa Leadership Consortium, discusses the surplus of talk and lack of action which so far typify the national health care reform movement. A Mason City internist, Dr. Trimble is president of the IMS.*

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Despite the fact many groups are calling for national reform of our health care system, Congress has yet to take decisive action. Why?

Congress will not enact legislation — particularly something as dramatic and potentially controversial as federally mandated health care reform — without consensus. As yet, there is no clear consensus on whether to reform the system, let alone on how to reform it. Consequently, Congress faces a myriad of reform proposals but is unwilling to act.

**Is a health care delivery system similar to Canada's still being considered? Are other proposals gaining popularity?**

Proposals to implement a Canadian type health care delivery system in the United States are still under consideration. The administrative cost of our system is a major reason the Canadian system looks attractive to some groups. Some analysts estimate that administrative costs account for about half of the total difference in health care spending between the U.S. and Canada. As it becomes increasingly apparent that the Canadian system rations access to specialty and "high tech" services, this option looks less attractive to many early supporters.

Proposed remedies for our health care delivery problems are numerous and diverse. One proposal gaining popularity is an "all-payer system." This system would maintain our current health and accident insurance industry but establish a single physician and hospital reimbursement schedule which could be used by all payors.

**The AMA has introduced a reform blueprint called "Health Access America." Is the AMA's proposal similar to other proposals under consideration?**

Health Access America is the AMA's proposal to improve our health care system while preserving its strengths. The AMA agrees our health care system needs improvement, but such improvement needs to be accomplished in a manner that does not jeopardize the access to quality care enjoyed by the vast majority of Americans. The Pepper Commission, named for the late U.S. Representative Claude Pepper of Florida, has issued a set of proposals which are quite similar to the AMA's plan. The Pepper Commission was a broadly represented group of U.S. lawmakers and private citizens cochaired by Senator Jay Rockefeller of West Virginia.

**Are we moving toward wholesale reform of our health care system on a state level?**

A couple of things are happening. Representative Johnnie Hammond of Ames has introduced legislation which would create a Canadian type health care delivery system in Iowa. Her proposal was favorably voted upon by the House Human Resources Committee. However, the bill was not debated by the House, mostly due to budgetary concerns.



The legislature did pass IMS-supported legislation based on the National Association of Insurance Commissioners' model small group rating law. This law gives the insurance commissioner authority to approve basic benefit health insurance and provides for premium credits and tax exemptions to encourage employers to provide health insurance.

**You are a member of the Iowa Leadership Consortium. What is the consortium's purpose?**

The stated purpose of the consortium is to develop a reasonable and feasible plan to reduce the rate of increase in health care expenditures in Iowa while assuring universal access to quality care. It is the consensus of the group that the achievement of universal access is not feasible unless costs are contained. The group believes problems in cost, quality and access are linked and must be addressed concurrently. Restructuring of the system and changes in financing and delivery are seen as necessary to promote more effective management of care.

In a recent controversial editorial, *JAMA* editor-in-chief George Lundberg, M.D. called for reform of our health care system because it has "turned its back on the poor." What is your reaction to this statement?

The problems of cost and access are obviously interrelated. I believe, however, that Dr. Lundberg is right in emphasizing lack of access as the most important reason for reform of the health care system. Exclusion from timely access to basic health care because of income is not compatible with basic American ideas of fair play and decency.

### LETTERS TO THE EDITOR

If you have a comment regarding something you've read in *IOWA MEDICINE* or an observation on conditions affecting the practice of medicine in Iowa, don't keep it to yourself. Share your thoughts in a letter to the editor. We'd like to hear from you.



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# Trousseau's Syndrome

JEFF MOODY, B.S.

BROOK SCOTT, M.D.

Iowa City, Iowa

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*The authors discuss a widely unrecognized and untreated complication of cancer.*

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THE DISEASE PROCESS OF PATIENTS WITH metastatic cancer presents many pathophysiologic complications. Advanced malignancy may alter hemostasis and many patients with neoplasia manifest a "hypercoagulable state." The clinical consequences of this cancer-associated coagulopathy may range from various asymptomatic thromboembolic events to acute and chronic disseminated intravascular coagulation (DIC). Cancer patients who exhibit clinical evidence of thrombosis, consumptive coagulopathy or other alteration of hemostasis have been described as having Trousseau's syndrome. The following case report illustrates typical historical, clinical and laboratory findings in patients with Trousseau's syndrome. The need for prompt diagnosis and therapeutic intervention is also demonstrated.

The authors are associated with the Department of Medicine, University of Iowa, and the VA Medical Center in Iowa City.

## *Report of a Case*

A 62-year-old male experienced painful lesions on the toes and sole of his left foot. The lesions were described as ischemic, hemorrhagic ecchymosis. Routine laboratory studies and noninvasive vascular studies were normal. The lesions were felt to be embolic and the patient was treated with conservative measures. Seven days later he was referred to the VA Medical Center after the sudden appearance of a painful mass in the medial aspect of his left thigh. The patient's past medical history was significant for metastatic adenocarcinoma of the pancreas, diagnosed at laparotomy 3 months previously.

The left thigh was erythematous and a tender, palpable cord approximately 20 cm in length was noted in the medial aspect of the thigh. Pulses were normal and there was no evidence of trauma, infection or deep venous thrombosis. Multiple petechiae and ecchymoses were present on the sole and the toes of the left foot, but according to the patient these lesions were regressing in number and size.

The blood count, platelet count, prothrombin time and partial thromboplastin time were normal. Serum chemistries revealed a mildly elevated alkaline phosphatase of 274 IU/l (normal 30-115 IU/l). Blood cultures were negative. Chest x-ray and an echocardiogram were normal. Duplex Doppler study revealed patent common femoral, superficial femoral and popliteal arteries. There was no evidence of deep venous obstruction but the left great saphenous vein appeared to be thrombosed. This patient

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR JULY 1991



had evidence of a recent embolic event involving the left foot and subsequently presented with acute superficial thrombophlebitis.

These findings in a patient with metastatic cancer of the pancreas are consistent with the clinical diagnosis of Trousseau's syndrome. Intravenous heparin was instituted with gradual resolution of his symptoms. After 5 days of intravenous therapy the patient received 10,000 units subcutaneously every 12 hours. He continued to improve and was discharged on long-term subcutaneous heparin.

## Discussion

In 1865 the French physician Armand Trousseau described the increased incidence of venous thrombosis in patients with gastric carcinoma.<sup>1</sup> He noted that these patients frequently experienced migratory and recurrent thrombophlebitis. Today this syndrome is more loosely applied to include most forms of cancer-associated coagulopathy. The clinical manifestations of the coagulation abnormality may take various forms, ranging from superficial thrombophlebitis to arterial embolization and hemorrhagic diathesis including acute and chronic DIC.<sup>2</sup>

## Clinical

Trousseau's syndrome was originally described in patients with gastrointestinal malignancies, however evidence of the cancer-associated coagulopathy has been reported in patients with malignancy of almost all organ systems. The incidence of thrombosis in patients with cancer is about 10 to 15%; the incidence in patients with pancreatic adenocarcinoma may be as high as 50%.<sup>3</sup>

The pathogenesis of the hypercoagulable state associated with malignancy remains undefined. Although various coagulation factors have been reported to be elevated in cancer, the role of these plasma proteins in producing thrombosis is unknown.

## Diagnosis and Treatment

The diagnosis of Trousseau's syndrome is based primarily on the history and the acute presentation of a thromboembolic event. The lack of a specific assay or a consistent abnormality in the laboratory assessment of hemostasis may obscure the diagnosis of an underlying coagulopathy. These problems may complicate evaluation of the patient with

Trousseau's syndrome and reaffirm the need for a high degree of suspicion.

Occasionally thrombophlebitis may be the initial complaint in an apparently healthy patient with an occult neoplasm. This has prompted some authorities to suggest a detailed evaluation of patients with unexplained thrombosis, especially if there are recurrent episodes.<sup>3,4</sup>

Therapy directed at the underlying neoplasm usually is successful in controlling the associated coagulopathy. In many patients curative therapy may not be possible. Radiation, surgery or chemotherapeutic agents used in an attempt to decrease the tumor mass may help prevent recurrent thromboembolic episodes. The practical palliative measure available for most patients with Trousseau's syndrome is anticoagulation with heparin. Several reports have shown approximately 65% of patients will respond to heparin; however once heparin is withdrawn over half of the patients have recurrence.<sup>2,3</sup>

Heparin is administered intravenously in the acute setting; patients then receive long-term subcutaneous heparin. The amount of heparin required for resolution of the acute thromboembolic event and prevention of recurrence varies, but most patients can be controlled with 10,000 to 40,000 units daily. For reasons not completely understood, therapy with oral warfarin is generally ineffective in patients with this disorder.

## Summary

Trousseau's syndrome remains a widely unrecognized and untreated complication of cancer. The clinical spectrum of the coagulopathy extends from uncomplicated superficial thrombophlebitis to life threatening DIC. Due to the absence of specific biochemical markers associated with the hypercoagulable state, this diagnosis is often overlooked. Initial intravenous heparin followed by the chronic administration of subcutaneous heparin will usually prevent thromboembolic recurrence.

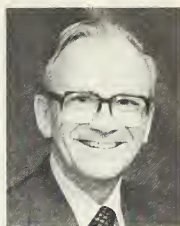
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## The Editor Comments

Marion E. Alberts, M.D.



# Society Deserves Better

*To the vast majority of mankind nothing is more agreeable than to escape the need for mental exertion . . . to most people nothing is more troubling than the effort of thinking.*

— James Bryce, *Studies in History and Jurisprudence: Obedience.*  
(English statesman and writer, 1838-1922)

THERE HAS BEEN A DECLINE in mental exertion during the past few decades among our people. In many circles, life centers around self-gratification and interest in mindless activities. As I browse through volumes of great quotations of the past it is evident there has been concern for many years about the sentiments expressed by Bryce. It is also evident thinkers of old were concerned about mental slovenliness and the habits of man; yet the question still exists. Do human beings in general fritter away their existence seeking pleasure rather than improving their minds?

All segments of society are guilty of mental laziness. The attitude seems to be getting the most for the least. Instant gratification becomes the theme of daily living. A case in point is our legislative process. Each year, be it in state government or in the Congress, many major concerns are subject to procrastination until the final hours of the session. I am sure there are serious discussions at committee levels, but it is all too evident that major bills are delayed until the last hours before adjournment. Too often they become make-shift compromises leaving a note of dissatisfaction in the minds of the lawmakers; certainly in the minds of those who elected their "representatives." Our Congress has an amazing track record of passing stop-gap bills to make funds

available to meet salaries of government employees. Procrastination supercedes serious mental exertion and management planning.

The June 1991 issue of *Reader's Digest* has an interesting article entitled "How to Teach Your Child to Think." The authors show, through examples and various studies, that sharp reasoning does not come automatically with intelligence. The children of today, in most instances, are full of data but lack the ability to use the information to address new situations and questions. In other words, American children cannot apply reasonable thought to everyday situations. Much of this inability to think began in the 1960s and 1970s when children were urged to "do their own thing." The rigor and discipline was lax, leading to reluctance to become involved in the hard work of thinking. The children became passive, their minds receiving little stimulation.

Those children of the '60s and '70s are now 20-30 years of age. It is little wonder there is an unsettled attitude among some of our policy makers. The parents of today must reverse this attitude for their children. They must develop an atmosphere of "thinking" in the home; likewise, such an attitude must prevail in the schools — from the elementary grades through college.

Intellectual development requires a store of information in concert with thinking. We need good thinkers in all walks of life. Professionals in medicine, law, education and politics must be leaders in this effort. Should we fail, another generation of passive, ineffective individuals incapable of serious critical thought will have society at their mercy. Society deserves more than that. — M.E.A.



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**The St Paul**

# Advance Directives for Medical Care

**I**NCREASED EMPHASIS IS BEING PLACED on the role of advance directives (or "living wills") in medicine. With the publicity given the Nancy Cruzan case, millions of persons throughout the country have become concerned about the possibility of ending up as "prisoners of medical technology." With passage of the Patient Self-Determination Act by Congress, all hospitals, nursing homes and other health care facilities receiving Medicare or Medicaid funds will be required, as of December 1, 1991, to inform adult patients of their rights under state law to have advance directives and to document in the patient's chart if a patient has an advance directive.

Two distinctions are helpful when discussing advance directives. The first has to do with the fundamental purpose of a particular advance directive: 1) Is it intended to give directives from the patient about treatment, or 2) Is it intended to give directives from the patient about a surrogate if and when the patient can no longer consent to or refuse treatment personally?

If a patient's advance directive focuses on treatment choices, it should contain information regarding the patient's preferences about a) treatments desired in the event of critical or terminal illness and b) treatments not desired under those circumstances. Given the future orientation and hypothetical nature of advance directives, the applicability and helpfulness of such documents often depends on the "clinical fit": the closer the fit between the wording of the patient's document and the clinical reality later on, the better for all parties concerned.

If a patient's advance directive focuses on selection of a surrogate decision maker, the document should a) specify who that person is (by name or by role), b) indicate the person has agreed to be a surrogate decision maker for medical decisions should the need arise, and c) name an alternate surrogate in the event the first surrogate is unavailable when needed. In most instances, the surrogate chosen is a relative. In some instances, a close friend may be selected because that person knows the patient and the patient's value system better than relatives do. The best advance directives are composite documents that state preferences about treatment choices and name a surrogate.

The second distinction is between 1) statutory advance directives and 2) nonstatutory advance directives. If the advance directive a patient has is *statutory* in nature, it has the explicit backing of a state law. If the advance directive is *nonstatutory*, it is intended to be morally persuasive (with the patient's physician and surrogate decision maker) but is not backed by any state statute. However, in several court cases (outside Iowa) nonstatutory advance directives have been admitted as important pieces of evidence regarding a patient's earlier preferences and values.

We will discuss nonstatutory advance directives more in a future column. For the moment, it is important to indicate patients in Iowa now have 2 statutory directives they may use. The first is based on the 1985 Life-Sustaining Procedures Act and applies only to patients who are terminally ill. The second is based on the new Durable Power of Attorney for Health Care Decisions law, which applies to any adult patient who is unable to make personal decisions about medical treatment.

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This column is written by Robert Weir, Ph.D., director of biomedical ethics for the University of Iowa College of Medicine.

## Retirement Planning

**T**HIS MAY BE THE YEAR your practice turns profitable. Or, it may be the year that you turn 40. Whatever the milestone, retirement planning for your practice is probably overdue.

First of all, a retirement plan can cut your tax bill. Second, a good plan enables you to set aside money tax-free until you retire. With the right plan, you can attract employees and give them an incentive to stay with you. (This is important for key employees whose departures might interrupt your sleep at night.)

As a small business owner or self-employed individual, you have several attractive options:

**SEP-IRA:** For most self-employed individuals, it is hard to beat a Simplified Employee Pension Plan, known as a SEP-IRA. It is a plan that works well for small businesses because it is inexpensive to set up and hassle-free to administer. You can set it up and fund it when you file your taxes.

As an employer, you can contribute up to 15% of salary or \$30,000 to employees' accounts. You can decide each year how much — if anything — you can afford. Employees who manage their accounts take those accounts with them if they leave your company.

Some features of the SEP-IRA may be disadvantageous for some employers. For example, eligible part-time employees must be included.

Some SEP-IRAs have a salary reduction feature. An employee who earns \$40,000 a year can defer up to \$6,000 (15%) to a SEP-IRA before taxes, reducing taxable income to \$34,000. With this plan, however, employers cannot match contributions and at least 50% of em-

ployees must agree to participate. If only highly compensated employees participate in the salary deferral plan, you are required to contribute 3% of compensation for all employees.

**Profit-Sharing Plan:** Because of its flexibility, this may be the most commonly used tool for professional groups setting up their first retirement plan. Flexibility is particularly important in a young business with a limited track record of earnings. As an employer you can decide each year what percentage of employee compensation — if any — you will distribute as profit-sharing. Employee accounts can be vested to give the greater rewards to long-time employees. Employers also have flexibility when investing profit-sharing funds. You can take the fiduciary responsibility with a pooled account or you can give employees responsibility for their own accounts. Contribution limits are the same as for the SEP-IRA. One disadvantage is an extra IRS form to file.

**Money Purchase Pension Plan:** Pension plans allow an employer to contribute up to 25% of employee compensation but the ceiling is \$30,000 each year. The main disadvantage is that the employer must make the annual contribution whether or not the company makes a profit.

Once your practice is stable, you may combine a pension plan with a profit-sharing plan. The advantage is that 15% of the plan can be a flexible profit-sharing contribution, reducing the annual mandatory contribution to 10%. The disadvantage is extra bookkeeping.

These are some of the practical retirement plan options for the self-employed and small business owners. An investment professional can evaluate your individual circumstances and help you select the option that best fits you.

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This month's column was written by Miles Luchtenberg, assistant vice-president with Piper, Jaffray and Hopwood in Des Moines.



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## College of Medicine Highlights

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**A GIFT FROM THE ROY J. CARVER CHARITABLE TRUST** of Muscatine is supporting the work of an established scientist and 6 new clinician-scientists: **Carver senior scientist Dr. Mario Ascoli, pharmacology; Carver clinician-scientist Dr. Patricia Donohoue, pediatrics; Dr. James Flanagan, internal medicine; Dr. Douglas Jones, pediatrics; Dr. Val Sheffield, pediatrics; Dr. Gregory Tennyson, internal medicine; and Carver research associate Dr. Maria Rojas.** These new appointments were made possible by a \$5 million gift through the UI Foundation in 1988.

**COLLEGE OF MEDICINE DEAN, DR. JOHN ECKSTEIN,** serves on the advisory committee to the director of the National Institutes of Health for the next 3 years. He was appointed to the post in 1990 by Louis W. Sullivan, U.S. Secretary of Health and Human Services.

**CHILD CARE WORKERS ARE AT AN INCREASED RISK** of contracting cytomegalovirus (CMV) infection from the children they care for, reported Drs. Jody Murph, pediatrics and James Bale, Jr., pediatrics and neurology. Eight percent of the providers were infected with CMV each year, the study revealed. In addition, the virus was more common among toddlers under age 2. CMV rarely poses a hazard for healthy children and adults, but is potentially dangerous to unborn children. This is a serious issue because most providers are young women of child-bearing age who have not been exposed to CMV previously.

**RESEARCHERS HAVE MADE REMARKABLE PROGRESS** in the past 2 decades in understanding GnRH, reports Dr. P. Michael Conn, pharmacology, in the January 10 issue of the New England Journal of Medicine. The U.S. Food and Drug Administration has approved the hormone derived from GnRH for the treatment of prostate cancer, endometriosis and precocious puberty, as well

as the use of natural GnRH to induce ovulation. Conn's laboratory is one of few in the world devoted to studying the molecular action of GnRH. The brain hormone selectively stimulates the pituitary gland, causing it to release hormones that regulate ovulation in women and sperm production in men.

**RICHARD REMINGTON, PREVENTIVE MEDICINE AND ENVIRONMENTAL HEALTH,** has been appointed chairman of Governor Branstad's Healthy Iowans 2000 Task Force. The group will review the "Healthy People 2000" report issued last fall by Louis Sullivan, U.S. Secretary of Health and Human Services, and set priorities for meeting those goals in Iowa. The report listed nearly 300 measurable objectives for improving health care under 3 broad categories: prolonging healthy life spans, equality in health status among all races and ethnic groups and access to preventive health services. Other College of Medicine personnel appointed to the task force are Jane Gay, preventive medicine and environmental health; Dr. Herman Hein, pediatrics; and Gayle Nelson, family practice. Remington is former vice president for academic affairs and former interim president of the UI.

**THE UI CENTER FOR AGING,** directed by Dr. Donald Heistad, internal medicine and pharmacology, received a \$1.4 million grant from the National Institutes of Health for interdisciplinary career preparation in geriatrics and gerontology. The center involves 52 faculty from medicine, nursing, dentistry and liberal arts.

**MATCH DAY FOR SENIOR MEDICAL STUDENTS** saw 71% get their first choice of residency and 91% get among their first 3 choices, Dr. Paul Pomrehn, associate dean, reported at the annual event in the Bowen Science Building March 20. Thirty-eight students will take first-year, post-graduate training in Iowa, 16 in Iowa community hospitals and 22 at UI Hospitals and Clinics.



# PREVENTION

## THE WRONG LEGISLATION COULD BE A BITTER PILL TO SWALLOW

**SYMPTOMS:** Acute distortion by the medical liability system. Persistent lobbying by trial lawyers for legislation to destroy the liability reforms passed in Iowa. Chronic fingerprinting by some elected officials and special interest groups trying to make doctors scapegoats for increasing healthcare costs. **DIAGNOSIS:** A malignant growth on the health care system caused by toxic legislation. **IS THERE A DOCTOR IN THE SENATE? PROGNOSIS:** If the medical profession and other concerned citizens are not vigilant, our fine medical system – the best in the world – will be in danger of being crippled by ill-advised physician representation. **TREATMENT:** A strong dose of support for your voluntary team of political action committee (IMPAC) and the American Medical Political Action Committee (AMPAC). **PREVENTION:** Funds raised through IMPAC and AMPAC from PERSONAL CONTRIBUTIONS go directly, 100%, to help legislators and candidates for office who support us on key medical issues. Mail your PERSONAL check today using the coupon below to ensure a healthy future for legislation that affects your patients, your profession and your future!



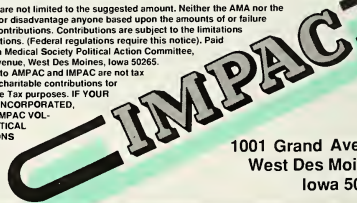
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## About Iowa Physicians

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**Dr. John Barker**, was recently certified by the American Society of Addiction Medicine. Dr. Barker is medical director of Mercy's Addictions Recovery Center in Davenport and practices general medicine in Eldridge. **Dr. Emmett Mathiasen**, Council Bluffs, has been appointed to the Iowa Board of Medical Examiners. **Dr. Charles Eicher** has retired after practicing medicine in Iowa City for 39 years. Dr. Eicher received the M.D. degree at the U. of I. College of Medicine. **Dr. Michael Jones**, Sioux City, has been elected counselor on the Executive Council of the Iowa Chapter of the American College of Surgeons. **Dr. Lisa Brothgers-Arbisser**, Davenport, recently was awarded board certification in the sub-specialty field of cataract/implant surgery from the American Board of Eye Surgery. **Dr. Hormoz Rassekh**, Council Bluffs psychiatrist, has been elected vice president of the Federation of State Medical Boards of the United States. **Dr. George Spellman**, Sioux City, was presented the Humanitarian Award during the 1991 Port of Sioux City River-Cade Extravaganza at the Siouxland Convention Center. **Dr. Clarence Carlson** has joined the staff at Family Medical Center, Lake Mills. Previously Dr. Carlson was medical director of recovery services at the Harold Hughes Center and a family practice physician at the Southridge Mall Clinic, both in Des Moines. **Dr. Harvard Isaak** has joined the surgical staff at Community Memorial Hospital in Clarion. Dr. Isaak most recently practiced with the Park Clinic in Hampton. **Dr. Janet Schlechte**, Iowa City internist and endocrinologist, has been named governor for the Iowa Chapter of the American College of Physicians. **Dr. Curtis Henderson** has left his Midlands Family Medicine (Mondamin and Missouri Valley locations) practice for emergency room practice at Keokuk Area Hospital. **Dr. George Drake**, Pleasantville, has opened a second practice in Knoxville. **Dr. Surendra Seth** has joined Monticello Family Medical Associates. Dr. Seth previously practiced at the Park Clinic in Hampton. **Dr. Mark Muilenburg** has

begun medical practice in Orange City. Dr. Muilenburg received the M.D. degree at the U. of I. College of Medicine and recently completed a family practice residency in Davenport.

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## Deaths

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**Dr. Donald Greif**, 62, Waterloo, died April 16 at Covenant Medical Center, Waterloo. Dr. Greif received the M.D. degree at the U. of I. College of Medicine and completed an ophthalmology residency at U. of I. Hospitals. He had been in private practice in Waterloo since 1970.

**Dr. Philip Sullivan**, 46, Leon, died May 1. Dr. Sullivan received the M.D. degree from the U. of I. College of Medicine and completed his residency at Kansas City General and St. Luke's Hospital, Kansas City, Missouri. He had practiced at the Leon Clinic since 1973.

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**GENERAL INTERNAL MEDICINE** — Marshfield Clinic, a 350-physician multispecialty group practice is seeking BE/BC family practitioners to join expanding regional centers. Positions are available in west central, northwestern and north central Wisconsin. These are beautiful, wooded Wisconsin areas with an abundance of lakes, rivers, and streams. All are ideally suited for physicians seeking to combine professional excellence in a midwest, family-oriented location offering exceptional 4-season recreational activities. Wisconsin consistently leads the nation in ACT and SAT scores and the school system in these communities is excellent. Each has its own special qualities with more attractive features relative to individual needs and preferences. Starting salary up to \$99,700 with salary in 2 years up to \$131,600. Fringe benefit package is outstanding. If this combination of professional excellence and life-style made possible through the back-up resources of a leading medical center in conjunction with the uncommon, varied beauty of Wisconsin's land and lakes sounds interesting to you, please send CV and references to David L. Draves, Director of Regional Development, 1000 North Oak Avenue, Marshfield, Wisconsin 54449 or call 1-800/826-2345, extension 5376.

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**LONE TREE, IOWA** — Longtime established general practice and equipped 2-person clinic. Available June 1, 1992. 25 minutes from Iowa City, Mercy Hospital, University Hospitals. I am retiring after 32 years of practice in this progressive community of 1100, with 46-bed care center (JCAH accredited) and school K-12. For more information contact Keith F. Mills, M.D., 107 Jayne St., Lone Tree, Iowa 52755 or call 319/629-4214 (office), 319/629-4220 (residence).

**FAMILY PRACTICE, HOSPITAL SPONSORED CLINIC OPPORTUNITY** — Dynamic, growth-oriented hospital in beautiful north central Wisconsin is seeking family physicians to join a growing practice in a new facility. The administrative burdens of medical practice will be minimized in this hospital-managed clinic. The hospital has committed to an income and benefit package which is significantly higher than similar opportunities. Package includes base income, incentive bonus, malpractice, disability, signing bonus and student loan reduction/forgiveness program. All relocation costs will be borne by the hospital. Please contact Kari Wangness, Associate, The Chancellor Group, Inc., France Place, Suite 920, 3601 Minnesota Drive, Bloomington, Minnesota 55435; 612/835-5123.

**EMERGENCY MEDICINE** — Marshfield Clinic-Lakeland Center, located in the beautiful Lakeland area of northern Wisconsin, is seeking an ER physician. This individual must be BE/BC in FP, IM or EM. This opportunity offers a challenging variety of patients, within a multispecialty group representing 13 specialties available for back-up. The Lakeland area offers a unique recreation oriented life-style and this position with a 48-hour work week will afford you the leisure time to enjoy it. Compensation includes a competitive salary along with one of the finest fringe benefit packages in the country. If you want to combine professional excellence with personal satisfaction and this opportunity sounds interesting to you, please send CV and references to David L. Draves, Director of Regional Development, 1000 North Oak Avenue, Marshfield, Wisconsin 54449 or call 1-800/826-2345, extension 5376.

**FAMILY PRACTITIONER NEEDED** — Rural medical practice is looking for family practice/general practice physician. Excellent opportunity to join 5 physicians in a busy, well established practice serving southern Iowa and northern Missouri. Great area for outdoor recreation, very reasonable cost of living. Contact Scott McIntyre, Administrator, Decatur County Hospital, 1408 N.W. Church, Leon, Iowa 50144; 515/446-4871 or Larry Richard, M.D., Decatur County Medical Services, 1404 N.W. Church, Leon, Iowa 50144; 515/446-4863.

**FAMILY PRACTICE** — Marshfield Clinic, a 350-physician multispecialty group practice is seeking BE/BC family practitioners to join expanding regional centers. Practice opportunities range in size from single specialty groups of 3 to multispecialty groups of 35. Positions are available in west central, northwestern and north central Wisconsin. These are beautiful, wooded Wisconsin areas with an abundance of lakes, rivers and streams. All are ideally suited for physicians seeking to combine professional excellence in a midwest, family-oriented location offering exceptional 4-season recreational activities. Wisconsin consistently leads the nation in ACT and SAT scores and the school system in these communities is excellent. Each opportunity offers a superlative life-style. Each has its own special qualities with more attractive features relative to individual needs and preferences. Starting salary up to \$99,700 with salary in 2 years up to \$131,600. Fringe benefit package is outstanding. If this combination of professional excellence and life-style made possible through the back-up resources of a leading medical center in conjunction with the uncommon, varied beauty of Wisconsin's land and lakes sounds interesting to you, please send CV and references to David L. Draves, Director of Regional Development, 1000 North Oak Avenue, Marshfield, Wisconsin 54449 or call 1-800/826-2345, extension 5376.

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# Physicians Want Healthy Iowans

**M**EDICAL PRACTICE IN THE 1990s is becoming a morass of governmental regulations, payor restrictions which intrude into the physician-patient relationship and difficult ethical and socioeconomic issues. However, Iowa physicians never lose sight of their major concern — the good health of Iowans.

As it does each year, this concern became apparent in the number of public health policy proposals on the agenda as physicians from across the state gathered in Des Moines April 20-21 for the annual IMS House of Delegates. This month's column highlights a number of public health resolutions upon which the IMS will act in the coming year.

## *Adolescent Health*

- The IMS adopts AMA policy in support of legislation providing that people under 21 convicted of operating a motor vehicle under the influence of alcohol or drugs have their drivers license suspended or revoked.

- The IMS supports creation of drunk driving treatment programs for people under age 21 and supports the AMA's "Healthier Youth by the Year 2000" project to reduce deaths among young people due to alcohol-related motor vehicle crashes.

- The IMS will continue participation in the Tobacco-Free Coalition and support all efforts to reduce tobacco use by all people, particularly youth.

- The IMS Committee on Alcohol and Drug Use and the Committee on Sports Medicine will continue efforts to prevent use and abuse of alcohol and drugs.

## *AIDS*

- The IMS will work to reduce barriers to HIV testing and encourage use of universal precautions.

## *Physician Supply*

- The IMS supports legislative initiatives to obtain funding from state grants and low interest loans for communities who want to attract new physicians into the private practice of medicine in Iowa.

- The IMS Committee on Delivery of Health Services and the University of Iowa College of Medicine will continue to explore strategies to help recruit primary care physicians in Iowa.

## *Health Care Access*

- The IMS will support legislative efforts at tort reform so that obstetrical services will be available to all women in communities near their homes.

- The IMS will seek immunity from malpractice liability for physicians who provide medical service on a voluntary basis without economic compensation.

- The IMS adopts the policy that the goal of local and state emergency medical services should be to ensure that quality services are available at an appropriate level to all Iowans. The IMS believes the state should permit local franchising of emergency medical services.

These issues and others which will receive attention from Iowa physicians in the near future demonstrate their concern for public health. As R. Bruce Trimble, M.D., IMS president, said recently, "Physicians do well for themselves when they speak strongly for the public good."

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July 1991

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Iowa Medicine

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## President's Privilege

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**R. Bruce Trimble, M.D.**



# Graduation Musings

**P**ARTICIPATION IN THE GRADUATION exercises of the University of Iowa College of Medicine is one of the pleasures of being president of the Iowa Medical Society.

On stage with the graduates sit the dean of the medical college; the president of the University of Iowa; a member of the Board of Regents, representing the commitment of society to education; and the president of the Iowa Medical Society, representing the larger professional community into which the new physicians now move and the commitment of organized medicine to education.

We have been fortunate over the years in the strong relationship between the University of Iowa College of Medicine and the Iowa Medical Society. Many faculty members belong to the Iowa Medical Society and serve as delegates to the annual meeting, on committees and as officers. The Board of Trustees meets regularly with representatives of the dean's office. Students also attend the House of Delegates and serve on some committees.

Physicians are usually called doctors, meaning teachers. Commitment to education is an important part of our professionalism. Many of us contribute financially to our medical schools. Some are part time teachers of medical students or residents. Through the Iowa Medical Society, we also express our collective support of education. The Iowa Medical Society is a cosponsor of the annual Hawkeye Science Fair for junior high and high school students. We are the largest non-federal source of loan funds for University of Iowa medical students (and make

available funds for Iowa students attending other medical schools), support the Student Medical Society and fund individual medical student service projects.

The Medical Education Committee accredits hospital CME programs around the state, arranges an annual "How To" CME conference and is exploring programs of individual CME.

We put on an excellent annual scientific session designed to update physicians on the latest scientific developments. This journal provides monthly scientific articles written by Iowa physicians for Iowa physicians.

Some of these activities are funded with dues money; others, especially the loan funds, are supported by our charitable arm, the Iowa Medical Foundation. For the first time this year, requests for loans exceeded our funding capability. You might consider a contribution to the Iowa Medical Foundation, if you have not yet made one this year.

A handwritten signature in dark ink that reads "R. B. Trimble". The signature is stylized with a large, flowing "R" and "B".

R. Bruce Trimble, M.D.  
President

P.S. At the June AMA Annual Meeting in Chicago Dr. Carol Aschenbrener, executive associate dean for the U. of I. College of Medicine, was elected to the AMA Council on Medical Education. This is a great honor for Dr. Aschenbrener and the IMS. Congratulations, Carol!

# CME Survey of Iowa Physicians

RICHARD CAPLAN, M.D.

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LOIS DUSDIEKER, M.D.

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PEGGY BUSH

Iowa City, Iowa

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***How, where and when do Iowa physicians prefer to get continuing medical education? Results of a recent U. of I. survey are presented.***

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LATE IN 1989, THE CONTINUING Medical Education (CME) Committee of the University of Iowa College of Medicine reviewed the CME activities of its collegiate faculty and administrative units for the preceding year. The committee probed more fully the matter of modes of learning and new delivery systems, and asked questions it could not answer, especially regarding the preferences of Iowa's physicians. Of special interest to the committee was whether Iowa's practicing physicians were eager for educational programs that employ newer technology. The committee decided to seek the answers via a questionnaire survey.

Of the 927 surveys mailed, 253 (27%) were returned. The responses were segregated by discipline of the respondent, as fol-

lows: family practice — 104, (41%); internal medicine — 26, (10%); pediatrics — 16, (6%); all others — 107, (42%).

The CME Committee, at its fall meeting in 1990, considered the data and their implications for our collegiate purposes, but felt the physicians of Iowa and the many institutions that provide CME to their own staff and others might find the data of interest. Each of the major survey questions follows, along with numerical responses and some elaboration.

**Question 1.** *Rate 16 methods of widely used CME on a scale of 1 (extremely effective) to 5 (ineffective).* The overall responses suggested the following conclusions: Respondents rated hands-on workshops as extremely effective; lecture, small group discussion, panel discussion, case presentation, question/answer session, self-study instruction using video cassette and professional journals were rated as very effective; bedside rounds, video program via satellite, video satellite with live telephone link, self-study instruction using audio-cassette, self-study instruction using audio-cassette with slides and outlines of lectures or grand rounds were rated as moderately effective.

Two important methods received responses that lay between "moderately effective" and "don't know," namely, "computer assisted instruction" and "study of your own practice." Those 2 categories represent the presently greatest enthusiasms of CME professionals. That this group of respondents ranked those methods so low may reflect lack of acquaintance with these newer modes of learning. Planners need to decide whether "the customer knows best" and provide the modes presently ranked highest, whether to attempt to introduce and prom-

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All of the authors are associated with the continuing medical education office at the U. of I. College of Medicine, Iowa City.



ulgate new techniques to be at the same "cutting edge" regarding education that they espouse in basic and clinical knowledge and methods, or some combination.

**Question 2.** *Do you prefer to obtain most of your CME (other than reading) at sites away from your home community?* Of 253 responses, 156 (62%) preferred to obtain their CME away, while 87 (34%) said at home and 10 (4%) did not respond. No clear guidance appeared from the many comments that respondents wrote.

**Question 3.** *About how many CME programs do you attend each year outside your home community?* The responses spread rather evenly between one and 6 programs, with a preponderance indicating 2 to 3 programs away. Two individuals said they attended 10 CME programs away from their home community each year.

**Question 4.** *Would you wish the University of Iowa College of Medicine to present CME programs in your home community?* One hundred thirty-one (52%) responded yes, 95 (38%) said no and 27 (11%) did not respond. Pediatricians seemed more interested in this prospect than other groups. The added comments were extraordinarily diverse and interesting, but disclosed no clear pattern (or mandates) in the responses.

**Question 5.** *Please indicate the times you find most convenient to attend CME activities.* The physicians responded (with an invitation to indicate more than one preference):

Season of the year preferred: fall — 78; winter — 76; spring — 65; summer — 20; no preference — 125.

Days of the week preferred: Saturday — 131; Friday — 119; Sunday — 65; Thursday — 63; Wednesday — 48; Tuesday — 31; Monday — 24; no preference — 68.

Time of the day preferred: morning — 66; afternoon — 62; evening — 57; no preference — 113.

Length of program preferred: one day — 130; 2 days or more — 95; half-day — 84.

Clearly, practitioners seem less attracted to summer programs, or to Mondays, Tuesdays and Wednesdays. The time of day seems of little importance. One day programs drew more approval than programs shorter or longer, but no strong mandate appeared.

**Question 6.** *Would you like the University of Iowa College of Medicine to program more of its CME activities outside the state?* One hundred seventy-three (68%) responded no, 50 (20%) responded yes and 30 (12%) did not respond. Persons who added comment almost uniformly suggested "warm" climates, but a few mentioned ski areas (one may presume that either group had winter-time in mind.) The survey did not establish how the respondents might feel about programs sponsored by other organizations.

**Question 7.** *Do you prefer a meeting to include vacation time in its structure (such as multiple days with scheduled activities in the morning only)?* Of the 253 respondents, 105 (42%) said yes, 87 (34%) said no and 61 (24%) responded "not applicable."

Most persons who added comment affirmed their interest in a "mixed" schedule but the total number of such comments was small. Such a structure seemed more appealing if the program were longer and at a more distant site.

## Conclusions

For the most part the data need no elaboration. Individual comments were often interesting to read, but collectively suggested no clearly superior path for planning. The general absence of a clearly preferred single choice for any variable therefore suggests the need for planners to offer a continuing mixture of CME programs in regard to mode, content, timing, location, and structure.

## We Want A Piece Of Your Mind!

What do you think of **IOWA MEDICINE** and the Society's newsletters? The IMS wants to find out. A reader survey is included with the August **IMS UPDATE**. The survey is brief and the postage is pre-paid. Please take a few minutes to complete the survey and drop it in a mailbox. Thanks.

# Physician Liability and The Medical Assistant

J.W. OPOIEN, M.D., PH.D.

Des Moines, Iowa

DONALD BALASA, J.D.

Chicago, Illinois

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***Hiring allied health practitioners who are certified and credentialed can reduce your potential exposure to liability, say these authors.***

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Most physicians employ allied health practitioners in some capacity in their practice. Most physicians are aware that they are ultimately responsible for the negligent acts of the allied health practitioners in their employ when acting within the general scope of their delegated authority. Many physicians are not aware of the legal advantages of hiring credentialed employees.

The common means of credentialing are certification and licensure. Licensure is a state credential required for legal practice. Certification is a voluntary credential that gives evidence of achievement of a certain degree of skill and knowledge.<sup>1</sup>

There is often confusion in the area of allied health practitioners. In the office setting the allied health worker may be called

"nurse" or "office nurse." A more correct term would be "medical assistant." When the allied health practitioner is not licensed, the term "nurse" may lead to increased malpractice exposure.<sup>2</sup> Most states license 2 categories of nurses: registered nurses (RNs) and licensed practical, or vocational nurses (LPNs or LVNs). An RN or LPN (LVN) may be employed as a medical assistant, but not all medical assistants are nurses.

A medical assistant is held to the standard of care exercised by a reasonably competent practitioner of the profession. A medical assistant using the term "nurse" may be held to the nursing standard of care. Furthermore, a medical assistant who does not hold a license as an RN or LPN (LVN) may be accused of performing nursing duties without a license.

Medical assistants who are not eligible for licensure are, however, eligible for certification provided they meet the criteria of the certifying body.

In view of the increasing number of organizations offering certification on either a local or national level, it would be prudent for the physician to obtain some knowledge of the certifying body for the medical assistants in his/her employ.

The Certified Medical Assistant (CMA) and Registered Medical Assistant (RMA) are both voluntary, national credentials for the medical assisting profession.

The American Medical Technologists (AMT), through the Accrediting Bureau of Health Education Schools, accredits programs preparing individuals for entry into the medical assisting profession in private

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Dr. Opoien is assistant director of the Iowa Lutheran Hospital family practice program. Mr. Balasa is executive director of the American Association of Medical Assistants.

and proprietary postsecondary institutions throughout the United States.

The American Association of Medical Assistants (AAMA), in collaboration with the Committee on Allied Health Education and Accreditation of the American Medical Association (AMA), accredits medical assisting programs preparing individuals for entry into the medical assisting profession in public and private postsecondary institutions. The AAMA has had formal and informal ties with the AMA since its inception in 1956.

The CMA is given by the Certifying Board of the American Association of Medical Assistants. The RMA is given by the American Medical Technologists.<sup>3</sup>

The CMA examination is based on a scientifically grounded occupational analysis known as the DACUM — an acronym for Developing a Curriculum.<sup>4</sup> The National Board of Medical Examiners serves as test consultant for the AAMA in the preparation and administration of the CMA examination. It ensures the reliability and validity of the AAMA CMA examination through psychometric analyses. The National Board of Medical Examiners administers several medical specialty examinations as well as the examinations most commonly used for medical licensure (FLEX and National Boards, I, II, and III).

The term Certified Medical Assistant applies to a medical assistant who has satisfied the certification requirements of the AAMA, although other organizations have from time to time erroneously attempted to use the term.

There are significant legal advantages to both the physician and the employee if the employee is currently certified in the applicable allied health profession.

Utilizing certified personnel is prima facie evidence that the physician is exercising due care in the role of delegator and coordinator of the health care delivery unit and could spell the difference between a favorable and unfavorable finding or settlement. This is especially true if the alleged negligence involved a procedure that was tested on the employee's certification examination. Proof of the employee's preparation for and passing of the test would lend credibility to the doctor's assertion that the procedure at issue was not delegated carelessly or capri-

ciously, regardless of the actual manner in which it was performed.

Certification demonstrates the employee's commitment to professional excellence and could rebut a claim that the employee was undertaking duties for which she/he was not qualified. If the alleged malpractice arose from an emergency or a situation which required some degree of independent judgment, certification by a recognized testing body would attest to the individual's depth of knowledge in theoretical as well as practical aspects of allied health care.

In conclusion, it would behoove the physician to consider the advantages of hiring credentialed employees. It could decrease malpractice exposure and improve the efficiency of the office through the utilization of employees dedicated to professionalism.

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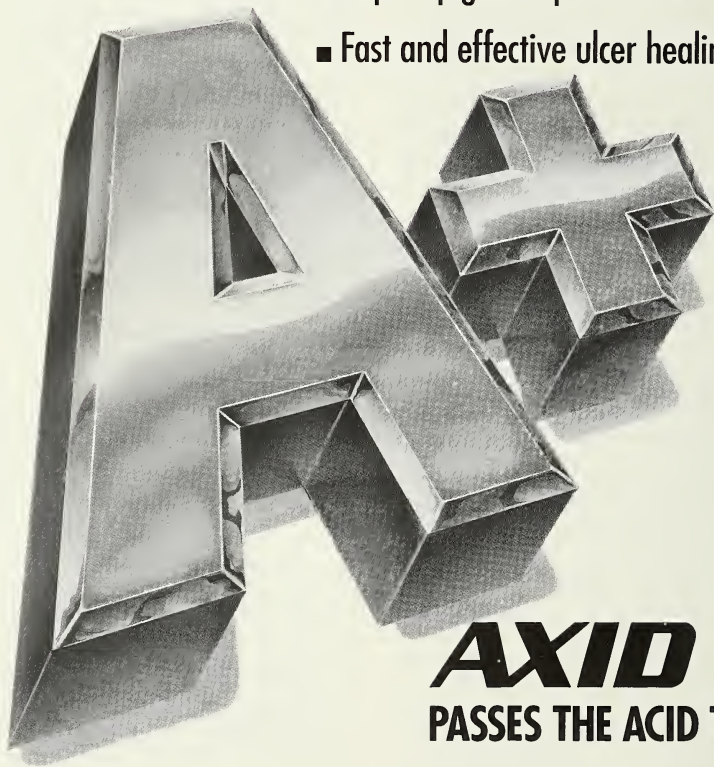
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2. Dosage should be reduced in patients with moderate to severe renal insufficiency.

3. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

**Laboratory Tests:** False-positive tests for urea nitrogen with Multistix<sup>®</sup> may occur during therapy.

**Drug Interactions:**—No interactions have been observed with theophylline, chlorazepate, diazepam, miconazole, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450 enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (330 mg) of aspirin daily, increased serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

**Carcinogenesis, Mutagenesis, Impairment of Fertility:**—A 2-year oral carcinogenicity study in rats with doses as high as 150 mg/kg/day (about 60 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of esophageal-like (ECU) cells in the gastric oxyntic mucosa. In a 2-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinomas and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinomas in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (32%) weight decrease as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat supraphysiologic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (up to 330 mg/kg/day, about 60 times the human dose), and a negative multidrug battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a 2-generation, prenatally and postnatal fertility study in rats, doses of nizatidine up to 150 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

**Pregnancy—Pregnancy Effects:**—Pregnancy Category C—Rat reproduction studies in rats at doses up to 300 times the human dose and in Diets B6H1 rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect, but it is also equivalent to 300 times the human dose, treated rabbits and abortions, decreased number of live fetuses, and decreased fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 27 mg/kg produced cardiac enlargement, constriction of the aorta, and fetal resorptions in 14 fetuses, and at 50 mg/kg, it produced ventricular aneurysm, distended abdomen, spinal bifida, hydrocephalus, and enlarged heart in 1 fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefits justify the potential risk to the fetus.

**Nursing Mothers:**—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to placental concentrations. Because of growth depression in pigs nursed by treated lactating sows, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

**Pediatric Use:**—Safety and effectiveness in children have not been established.

**Use in Elderly Patients:**—Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

**Adverse Reactions:** Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,500 nizatidine patients and over 1,300 on placebo, swelling (1% vs 0.2%), hiccups (0.5% vs <0.1%), and constipation (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events were due to the drug.

**Hepatic:**—Hepatic toxicity (revealed liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>500 IU/L in SGOT or SGPT, and, in a single instance, SGPT was >2,000 IU/L). The incidence of elevated liver enzymes, overall and elevations of up to 3 times the upper limit of normal, however, did not significantly differ from that in placebo patients. All abnormalities were reversible and disappeared by Axid. Since marked introduction, hepatitis and jaundice have been reported. Rare cases of cholestatic or mixed hepatobiliary and cholestatic injury with jaundice have been reported with reversal of the abnormalities after discontinuation of the drug.

**Cardiovascular:**—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in 2 individuals administered Axid and in 3 untreated subjects.

**CNS:**—Rare cases of reversible mental confusion have been reported.

**Endocrine:**—Clinical pharmacology studies and controlled clinical trials showed no evidence of antihypertensive activity due to nizatidine. Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

**Hematologic:**—False thrombocytopenia was reported in a patient treated with nizatidine and another H<sub>2</sub>-receptor antagonist. The patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

**Integumentary:**—Swelling and urticaria were reported significantly more frequently in nizatidine than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

**Hypersensitivity:**—As with other H<sub>2</sub>-receptor antagonists, rare cases of angioedema following nizatidine administration have been reported. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

**Other:**—Hypertension associated with oral or nebulized nizatidine was reported. Eosinophilia, fever, and nausea related to nizatidine have been reported.

**Overdose:** Overdoses of Axid have been reported rarely. If overdose occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis does not substantially increase clearance of nizatidine due to its large volume of distribution.

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(09/190)

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## Letters to the Editor

### "Great Editorial"

Dear Editor:

"Keep the Doors Open" (The Editor Comments, March) is a great editorial. It is simple, but has a great message. I am reading 2 non-medical books a week. Thanks for the great writing. I always look forward to your editorials. — *Saheb Sahu, M.D., Des Moines.*

## Laparoscopic Cholecystectomy

To the Editor,

In recent months, there has been a great deal of interest regarding laparoscopic cholecystectomy and it is quite evident this procedure is here to stay. At a recent symposium involving numerous Iowa surgeons, there was considerable discussion regarding how much of the cystic duct might safely be left when performing laparoscopic cholecystectomy. Because some of the surgeons seemed to suggest this was not too important an issue, it seems appropriate we should draw attention to a paper published by Frank R. Peterson, M.D., former chief of the Department of General Surgery at University Hospitals in Iowa City, in "Transactions of the Annual Meeting of the Western Surgical Association," Volume 51, 1942. The following are quotations from Dr. Peterson's paper:

"Literature does not emphasize removal of the cystic duct with cholecystectomy. It has, and rightly so, strongly warned of the danger of injury to the extrahepatic biliary ducts in routine cholecystectomy, but in so doing has not indicated the morbidity associated with failure to remove cystic duct. In our experience, this oversight has necessitated re-operation more often than has operative injury to the hepatic or common ducts."

In Dr. Peterson's report, "27 cases of 'reformed gallbladder' were due to changes taking place in residual cystic duct stumps. The reformed gallbladder contains mucus like that of the cystic duct with an addition (as in two or possibly three of our cases)

(Continued next page)

mucosa in the fundus suggestive of gallbladder origin. Its wall shows inflammatory signs. Its lumen often contains stones. It is responsible for continued symptoms because of the continued infection and a tendency to develop stones. It is even more likely to produce jaundice (13 of 27 cases) than the original gallbladder." Dr. Peterson included 27 recorded cases which had accumulated in the past 12 years. All patients had recurrence of symptoms of sufficient degree to demand re-operation, and all were typical of biliary tract disease. Four of the 27 patients were males. The original cholecystectomy had been done on an average of 8 years previously. Symptoms returned on an average of 3 2/3 years after cholecystectomy. Twelve had recurrence of symptoms in one year or less. There was a history of jaundice in 13 of the 27, and it was present on admission in 7. Chills and fever in 4.

Dr. Peterson stated "our desire is to reiterate the prevailing demand that in biliary tract surgery the common duct must be rou-

tinely exposed." He concludes that "the properly performed cholecystectomy must include the entire cystic duct. When so done, there will be no reformed gallbladders and there need occur no accidental injuries to ducts."

In light of Dr. Peterson's report, I would urge the laparoscopists to make a determined effort to not leave a remnant of the cystic duct when performing laparoscopic cholecystectomy.— *Ralph Dörner, M.D., F.A.C.S., Des Moines.*

### LETTERS TO THE EDITOR

If you have a comment regarding something you've read in *IOWA MEDICINE* or an observation on conditions affecting the practice of medicine in Iowa, don't keep it to yourself. Share your thoughts in a letter to the editor. We'd like to hear from you.



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# Urologists Stress Education

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*The author, a Marshalltown urologist and president of the Iowa Urological Society, discusses technological advances and socioeconomic developments in the specialty of urology.*

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### What is the picture with regard to the supply of urologists?

While there does not appear to be a shortage of urologists, distribution may be of some concern.

I believe every Iowa resident has access to specialized care by a urologist, though it may necessitate travel by the urologists or patients. This can create the perception there is a shortage when, in fact, the community could not support a full time urologist.

The inconvenience of travel must be balanced with the fact that increasing the number of surgeons in an area increases the number of procedures and the total cost of medical care.

However, we must be careful that preoperative evaluations are carried out by a specialist and that there is no "itinerant" surgery. The surgeon doing the procedure must be responsible for a complete preoperative evaluation. As a reviewer for Iowa's PRO, I am surprised on occasion by the lack of information given to the review organization for permission to do the surgery.

### What recent technological and scientific advances have affected your specialty?

Urology was one of the first specialties utilizing endoscopy. Cystoscopy and transu-

rethral resection of the prostate have been a major cornerstone in urology for many years; endourology has significantly changed nearly every urologist's practice. Open ureterolithotomy and open procedures for kidney stones are rare procedures.

Percutaneous procedures have decreased in popularity with the advent of extra corporeal shockwave lithotripsy (ESWL) and ureteroscopy. ESWL, possibly in combination with percutaneous procedures, has nearly eliminated open procedures on the kidney for calculi. With improved ureteroscopic instruments, the ureter and even the kidney are more accessible.

Evaluation of hematuria, filling defects and obstruction have been much improved with the advent of better flexible scopes and smaller rigid scopes. Stones that were once too large to pull down the ureter are now accessible to the very small laser ureteroscopes.

### What socioeconomic developments have influenced urology?

Since a high percentage of most urology practices consist of Medicare patients, Medicare cutbacks have been particularly noticed. Specifically, prostatectomy has been targeted as a high cost procedure. This is due to the fact that most men needing prostate surgery are of Medicare age.

Some of this loss has been counterbalanced by the wider scope of urologic practice. In addition, more procedures are being done in the office. Though it is difficult to detect how much effect outpatient surgery has had on the individual urologist, it has cut the gen-

*(Continued next page)*

eral cost of urologic service. The high cost of ultrasound equipment has caused an increase in overhead for most urologists. In small practices, the payback is marginal. However, patients expect state of the art diagnostic procedures.

### **What are the concerns and goals of the Iowa Urological Society?**

The Iowa Urologic Society has 2 meetings a year — the academically-oriented fall meeting at the U. of I. and a spring meeting held in various places throughout Iowa. Every effort is made to keep up on the latest information coming out of university centers.

The less formal spring meeting gives urologists a chance to discuss difficult or unusual cases and present papers of smaller case series encountered in their practices. These smaller meetings involve a lot of give and take. The emphasis is always on how best to take care of a patient and improve a physician's technique and ability to diagnose urologic problems.



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# Controversies in Urologic Oncology

ROBERT DREICER, M.D., M.S.

WILLIAM SEE, M.D.

RICHARD WILLIAMS, M.D.

Iowa City, Iowa

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***Recent developments in uro-oncology have created new opportunities and controversies in treatment of bladder cancer, prostate cancer and renal cell cancer.***

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**D**EVELOPMENT OF NEW THERAPEUTIC and diagnostic modalities for management of urological malignancies has been especially rapid over the past 5 years. In some instances, the swift entry of these modalities into our therapeutic and diagnostic armamentarium has exceeded our ability to fully evaluate the efficacy and the appropriate clinical settings in which they should be utilized.

In this brief review we attempt to highlight some of the most significant developments and discuss ongoing controversies in bladder, prostate and renal cancers.

## ***Superficial Bladder Cancer***

Superficial transitional cell neoplasms involving the urinary bladder are the second most

common urologic malignancy, accounting for approximately 40,000 new cases per year. The principle disease related issues for this neoplasm are the prediction or prevention of both tumor recurrence and progression.

Roughly 70% of bladder tumor patients will suffer tumor recurrences. Of multiple parameters evaluated, only tumor size and number at presentation demonstrate any correlation with recurrence risk. Intravesically administered antineoplastics have been widely used in an effort to prevent tumor recurrence.

To date intravesical bacillus Calmette-Guérin vaccine (BCG) has shown the greatest efficacy for tumor prevention. Unfortunately this agent causes serious side effects in a significant percentage of patients. Lethal toxicity has been reported in several cases. As the majority of patients with superficial bladder tumors are at very low risk for disease related mortality, BCG must be used with caution. Although less effective than BCG, agents with less toxicity such as Thio-tepa and mitomycin C are better choices as first line agents if elimination of recurrence and not prevention of disease progression is the treatment goal.

An unresolved issue is the role of tumor implantation at the time of primary tumor removal as a cause of the unparalleled recurrence rate of this relatively "benign" neoplasm. Based upon remarkable results in an animal model we are currently conducting a phase I/II trial of low, single dose cyclophosphamide administered systemically at time of tumor removal.

Tumor progression to muscle invasion occurs in 10-15% of patients with initially non-

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The authors are associated with the Department of Urology at the University of Iowa College of Medicine, Iowa City.

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION AWARD FOR AUGUST 1991

invasive tumors. Initial tumor stage and grade remain the best predictors of progression. Lamina propria (submucosal) invasion, grade 3/3 morphology and/or associated carcinoma in situ (CIS) are harbingers of a poor outcome. When prevention of progression is the primary treatment objective, intravesical BCG is the agent of choice and has proven effective in treating the otherwise "chemo-resistant" CIS. Given the 50% mortality associated with muscle invasive disease, these patients need to be followed closely. Patients who fail to respond to 2 6-week cycles of BCG should be strongly considered for early cystectomy.

### **Muscle-Invasive Bladder Cancer**

Radical cystectomy has long been regarded as the gold-standard for management of patients with muscle-invading bladder carcinomas. Unfortunately 5 year overall-survival rates following radical cystectomy are in the 50% range, with the majority of patients failing with distant metastases.<sup>1</sup> This reinforces the fact that the presence of micrometastatic disease at the time of surgery is a clinically relevant problem.

Following the demonstration in the mid-1980s that cisplatin-based combination chemotherapy had efficacy in treatment of metastatic urothelial malignancies, Scher et al reported their experience utilizing a combination

quired to administer preoperative therapy harms patients who fail to respond by delaying definitive therapy.

In an attempt to clarify the role of neoadjuvant therapy, the National Cancer Institute (NCI) has designated as high priority the ongoing intergroup study comparing 3 cycles of M-VAC followed by cystectomy vs cystectomy alone. Given the lack of data demonstrating a survival advantage, the toxicity to the patient and the expense, the use of neoadjuvant chemotherapy should be considered investigational.

### **Prostate Cancer**

Prostate specific antigen (PSA) was first described by Wang in 1979.<sup>3</sup> However, it was not until the mid-1980s that it found widespread clinical application. The value of following serial PSA values in patients after "definitive" therapy (i.e., radical prostatectomy or radiotherapy) has been established, but the role of PSA as a prostate cancer screening tool remains very controversial.<sup>4, 5</sup> A recent report by Catalona et al describing an improved detection rate for prostate cancer using PSA combined with a rectal exam and transrectal ultrasonography (TRUS) has generated much interest in the lay public.<sup>6</sup> While a full discussion of PSA as a screening tool is beyond the scope of this review, several significant issues need to be highlighted.

Prostate specific antigen utilized independently is not a useful screening tool as it is prostate tissue-specific rather than prostate cancer specific. Patients with benign prostatic hypertrophy (BPH) frequently have abnormal PSA values. Several large studies of patients with BPH have shown elevated PSA values in 28 to 86% of patients.<sup>7, 8</sup> Also, manipulation of the prostate during digital rectal (DRE) and transrectal ultrasound examinations are known to cause transient elevations in PSA.<sup>9</sup>

While recent studies demonstrate that PSA used in conjunction with DRE and TRUS increases the detection rate of prostate cancer, there are many unresolved issues that preclude the routine use of PSA and TRUS as prostate cancer screening tools in asymptomatic men.<sup>10, 11</sup> Of significant concern is the lack of definitive evidence that early diagnosis and therapy (radical prostatectomy or radiotherapy) result in improved survival. Another important question is whether widespread ap-

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*'Intravesical bacillus Calmette-Guérin vaccine (BCG) has shown the greatest efficacy for tumor prevention. Unfortunately this agent causes serious side effects in a significant percentage of patients.'*

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regimen of methotrexate, vinblastine, doxorubicin and cisplatin (M-VAC) as neoadjuvant therapy to attempt to down-stage the primary bladder tumor and treat micrometastatic disease.<sup>2</sup> Down-staging of primary bladder cancers have been reported in 20-70% of cases. However, there is no evidence that down-staging translates into a survival advantage. Some question whether the 2-3 months re-

plication of screening with these modalities will allow clinicians to differentiate clinically relevant cancers from "histologic" but not clinically significant cancers.

The economic implications of prostate cancer screening is also an unresolved and largely unexplored issue. The cost of a single screening of all American males over age 50 for prostate cancer utilizing PSA, DRE, TRUS (and follow-up biopsies when indicated) has been estimated at \$1.35 billion.<sup>12</sup> The associated psychological and emotional costs associated with false positives and negatives are incalculable.

The concept of maximal androgen blockade (removal of both the testicular and adrenal source of testosterone) for treatment of metastatic prostate cancer is controversial. Labrie et al reported a 2-year disease free interval of 60% and an overall survival rate of 80% in an uncontrolled trial of the luteinizing hormone-releasing hormone (LHRH) agonist ethylamide plus the antiandrogen flutamide in 119 patients with untreated metastatic prostate cancer.<sup>13</sup> Crawford et al in a large prospectively randomized, double-blind study compared the LHRH agonist leuprolide plus placebo versus leuprolide and flutamide and reported a significant difference in both disease free and overall survival.<sup>14</sup> There was a statistically significant improvement in survival, the improvement was in the range of 6 to 7 months but some have questioned whether the improvement in survival was secondary to the negative impact in disease status induced on approximately 10% of patients treated with lupron and placebo who experienced an LHRH-induced testosterone flare. Resolving this issue is important from a perspective of toxicity and costs since combined therapy is expensive (\$6000-7,000/year) and associated with a somewhat higher incidence of side effects. The ongoing intergroup study was designed to clarify the role of maximal androgen ablation by removing the confounding issue of an LHRH-induced testosterone flare by randomizing patients to orchiectomy alone versus orchiectomy plus flutamide.

### Renal Cell Cancer

Metastatic renal cell carcinoma remains a difficult therapeutic dilemma. Response rates to standard hormonal or chemotherapeutic agents are in the 5-25% range with few if any

long-term survivors. Biological response modifiers, specifically alpha interferon and interleukin-2 with or without LAK cells have been extensively evaluated in numerous clinical trials but the role of these agents in patient management remains controversial. Various studies of alpha interferon in metastatic renal cancer have provided evidence for reproducible response rates in 15-20% of patients, with occasional long-term survivors.<sup>15</sup> Good prognostic factors include patients with a minimal tumor burden (i.e., primary kidney tumor removed), lung metastases only and a good performance status.

Despite the early enthusiasm for interleukin-2 and LAK cells following the publication of the NCI's series reporting a 35% response rate, subsequent clinical trials using the same dose and schedule reported response rates of only 16%.<sup>16, 17</sup>

Recent work with autolymphocyte therapy — outpatient infusion of suppressor cell depleted lymphocytes "activated" in vitro by an autologous lymphokine mixture — has shown some promising early results with minimal toxicity. However, as the published results of this therapy include a relatively small number of patients, enthusiasm for this therapy should be tempered until additional confirmatory trials are reported.<sup>18</sup>

### References

References noted in this article are available either from the authors or the editors of *IOWA MEDICINE*.

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## The Editor Comments

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Marion E. Alberts, M.D.



# CME with a Clear Conscience

**I**N SOME CIRCLES, CONTINUING EDUCATION has become a sham. Instances of courses being presented to empty auditoriums while the "participants" are on the ski slopes, at a sports event or basking on a beach have been documented. A recent television documentary exposed blatant fraud by some professionals attending "education" courses.

Our profession is not the only one to experience this problem. Other professionals engage in continuing education that is not really educational. The presentation of "seminars" has become big business for services not related to hospitals or medical colleges.

In this issue of *IOWA MEDICINE*, Dr. Richard Caplan presents data from a survey done by the U. of I. College of Medicine's Continuing Education Committee. The survey was designed to find out when, where and in what format Iowa physicians prefer to get their continuing medical education. The data presented by Dr. Caplan in his article tell us Iowa physicians are very concerned about their need to update their medical knowledge or fill any gaps in their learning.

Whether it is CME or other human endeavors, the summer months take their toll. Vacation time becomes uppermost in many workplaces. At the IMS, many of our committees become temporarily dormant, as do other aspects of our professional and personal lives.

During these lazy days of summer, think upon the months to come when plans

will be made for fulfilling the required hours of continuing medical education for the ensuing year. Choose wisely and with a true desire to learn.

If a vacation is needed, take a real vacation. Enjoy your family at a delightful place and forget medicine for a week or 2. Certainly, members of our profession are not so short of funds that every trip or vacation out of the office has to be tax deductible. Enjoy a real vacation without keeping track of every dollar you spend. Have fun! Then, when you attend a well-organized CME program, get the most you can from it. You will be rewarded with renewed professional awareness. You will have a clear conscience that all was above board.

On this hot, muggy day in June as I faced the task of preparing this page for the August issue, it is easy to relate to the "dog days," which Webster defines as "the period between early July and early September when the hot, sultry weather of summer usually occurs in the northern hemisphere." What will it be like when August's dog days really begin to bite?

The term dog days has its origin from the time of the heliacal rising of the Dog Star (Sirius), i.e. the first rising after invisibility due to conjunction with the sun. So, this month's column contains a short course in astronomy as well as insight into human behavior under adverse climactic conditions.—M.E.A.

Richard M. Caplan, M.D.



## Are Scientific Physicians Scientists?

**O**CCASIONALLY, A COLLEAGUE giving vent to an impulse of teasing nastiness or an urge to diminish boredom by pushing my button will challenge my fond distinction between a physician-scientist and a scientific physician. The discussion might proceed as follows:

**Antagonist:** Have you not argued that a scientist uses scientific methods, including the formulation of hypotheses whose truth will follow from experiment and observation, to better understand the physical universe?

**Caplan:** Yes.

**A:** And have you not urged that most encounters between doctor and patient involve the doctor's generating a hypothesis to be tested by the patient's progress in the laboratory of the patient's locus — that is, hospital, home, workplace and so on. In other words, the physician may say, "I offer the hypothesis that if you swallow these tablets as I direct, you will feel better." The doctor later establishes whether the hypothesis was supported. Am I right?

**C:** Yes.

**A:** Than that physician is a scientist.

**C:** Perhaps. I can follow your argument enough to understand how it has carried you astray. Your scenario misses the point in 2 ways. First, successful prediction by itself, and in small numbers, does not assure the correctness of a hypothesis. If your hypothetical physician wished to structure ade-

quate repetitions of the respective experiments, keep suitable records and draw conclusions based on logical and statistical reasoning, I might grant your point.

**A:** I'm cheered to hear that. What about the second way in which you think my scenario has fallen short?

**C:** Consider the relationship of adjective to noun. To be a scientific physician has to do with the sort of physician one is, that is, educated in the knowledge and procedures of science that relate to medical work. One's identification and purpose is carried in the noun; the adjective adds information but does not transform its noun into a different entity. For example, consider an apple. If I speak of it as a red apple, the apple is not changed into a pumpkin, nor is it transformed into a platonic abstraction of redness. In other words, a physician employs techniques designed and chosen to help improve the health or relieve the illness — including worry — of patients. An understanding of the physical universe will likely improve the doctor's success rate and the physician's work may add new knowledge about the physical universe, but the physician's purpose is to prevent or alleviate illness. Thus, science is a means to that end. For the physician-scientist, the purpose is to understand the universe. That knowledge is an end unto itself.

**A:** You are right.

**C:** (With a flourish of victory) Certainly. (But we will not speak of that special problem of the "road apple.")

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Dr. Caplan is Associate Dean for Continuing Medical Education at the University of Iowa College of Medicine.

# Heart and Lungs Assessment Before Sedation

**T**HE IFMC OFTEN FINDS heart and lungs assessments are not completed before procedures performed under sedation, or the heart and lungs assessments are performed long before the day of the scheduled procedure. This composite case identifies the concerns generated from a lack of a sufficient workup prior to sedation.

## *The Case*

A 73-year-old male was admitted to outpatient surgery for a colonoscopy due to a history of left lower quadrant pain and positive stools for occult blood. He also had a history of COPD. Prior to the procedure, his BP was 140/72 and a radial pulse of 82 was recorded.

No assessment of the heart and lungs was done by the physician prior to the procedure. The patient was sedated with IV Demerol 50 mg and IV Valium 8 mg. There was no provision for monitoring the patient during the procedure.

After the procedure, his BP was 104/60 without an assessment of pulse rate.

## *Reviewer Comments*

This patient who was to receive IV sedation, should have at a minimum received an assessment of the heart and lungs by auscultation the day of the scheduled procedure.

The IFMC's Comprehensive Review Committee notes that any sedation (IV, IM, or oral) especially in a patient with respiratory compromise, should be given with caution regard-

less of the type of procedure to be performed (surgical or diagnostic). At a minimum, the physician should do a baseline assessment of the patient to determine the status of the heart and lungs by auscultation prior to sedation. Knowledge of the patient's cardio-respiratory status based on this evaluation will help minimize the risks of sedation. This assessment will serve as a guide for safe dosing and the most appropriate route of administration.

In addition, patients with a history of valvular heart disease or in-dwelling pacemakers require prophylactic antibiotics for many procedures. If the patient is not evaluated prior to these procedures the patient may be placed at significantly increased and unnecessary infective risk.

According to HCFA guidelines, this is determined to be a quality concern with an assigned severity level II. A severity level II is defined by HCFA as a confirmed quality problem with the potential for significant adverse patient effects.

HCFA guidelines indicate a physician must examine the patient immediately before a procedure to evaluate the risk of anesthesia in relationship to the procedure. The guidelines also note a history and physical are required regardless of the type of anesthesia planned and/or given.

For more information about workup prior to sedation, please reference the section entitled, *Conscious sedation/local anesthetic with sedation or regional blocks (IV block or axillary block)* in "Outpatient/Ambulatory Surgery Documentation Guidelines" which appears on page 3 of the May, 1991, *IFMC News* (volume 7, issue 2).

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This article was written by Curtis Mock, M.D., a family practice physician in Onawa. Dr. Mock is an IFMC reviewer and a member of the IFMC's Internal Validity Committee.

## Promoting Breastfeeding

**A**LMOST ALL HEALTH PROFESSIONALS endorse breastfeeding. However, mothers need more than advice about which feeding practices are best. The IDPH, the Iowa Special Supplemental Food Program for Women, Infants and Children (WIC) and the Iowa Section of the American Academy of Pediatrics are collaborating to promote breastfeeding in Iowa.

Despite the advantages of breastfeeding and the fact that almost all women are physically able to breastfeed, many choose not to breastfeed or discontinue breastfeeding early. About 55% of infants in the United States and 49% of infants in Iowa are breastfed in the first days after birth. Only 27% of infants nationally and 22% of Iowa infants are still breastfed when they are 6 months old. Even lower rates are reported in low-income groups and ethnic minorities.

### *Grant to Promote Breastfeeding*

WIC promotes breastfeeding as the best way to feed infants. WIC staff advocate breastfeeding, help women make informed decisions and support their decisions. Local agency WIC staff support clients through peer support programs and counseling. Working with community hospitals also increases the breastfeeding services for pregnant and breastfeeding women. These networks have led to more referrals, joint staff in-services and other collaborative efforts.

Public Law 101-147, the WIC Reauthorization Legislation of 1989, specifies that \$8 million in grants be spent annually for breastfeeding promotion and support programs. In Iowa, a minimum of \$65,000 will be used to promote breastfeeding this fiscal year. With these additional resources, the Iowa WIC pro-

gram is targeting activities to the general population because all women need more information and support so they can serve as role models.

### *Collaborative Effort*

In 1986, the Iowa Lactation Task Force was formed to work on increasing Iowa's breastfeeding rate. In 1990, the group expanded its membership to include representatives of professional associations, organizations and consumers.

Organizations and associations represented on the task force include consumers, Family Planning Council of Iowa, Iowa Academy of Family Physicians, Iowa Association of Nurse Practitioners, Iowa Chapter of the American Academy of Pediatrics, Iowa Department of Education, Iowa Department of Public Health (including WIC), Iowa Dietetic Association, Iowa Hospital Association, Iowa Nurses Association, Iowa Section of the American College of Obstetricians and Gynecologists, La Leche League and the Nurse Associates of the College of Obstetrics and Gynecologists.

Objectives for the task force include increased breastfeeding prevalence and duration and increased support services to breastfeeding women. To increase the rate and duration of breastfeeding, the Iowa Lactation Task Force, with assistance from other groups, must change the public's attitudes and influence behavior of parents. Policy makers, legislators, health professionals and other key groups must be convinced that breastfeeding offers unique advantages to mothers and infants. The Iowa WIC program and the IDPH are excited about the far-reaching effects these activities may have on the health of mothers and children in Iowa.

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This information on public health matters is furnished and sponsored by the Iowa Department of Public Health.



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## About Iowa Physicians

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**Dr. Peter Stephens**, formerly of Bettendorf, has joined Weland Clinical Laboratories, P.C., Cedar Rapids. **Dr. Mark Zlab** has joined **Dr. Thomas Ericson** and **Dr. Steven Herwig** at Otolaryngology-Head and Neck Surgical Associates in Des Moines. Dr. Zlab received the M.D. degree from the University of Nebraska College of Medicine, Omaha, Nebraska and completed residencies at Veterans Administration Hospital, Des Moines and the University of Nebraska. **Dr. Paul Seeböhm**, U. of I. College of Medicine, was recently awarded the Distinguished Alumni Award at the University of Cincinnati College of Medicine's annual alumni banquet. Dr. Seeböhm was recognized for his contributions as a scientist, physician, teacher and administrator for more than 40 years at the U. of I. **Dr. Jay Ginther**, Bluff Medical Center in Clinton, presented a paper on total knee replacement to the International Society of the Knee in Toronto, Ontario, Canada. **Dr. Stephen Stefani**, director of anesthesia and the intensive care unit at Broadlawns Medical Center, Des Moines, has been elected president of the Iowa Society of Anesthesiologists. **Dr. Jeanne Smith**, professor emerita of otolaryngology, U. of I. College of Medicine, was a lead speaker at a Copenhagen, Denmark conference on increasing worldwide incidence of hay fever, asthma and other diseases of the nose. **Dr. Nicholas Messamer** has joined **Drs. Keith Campbell, Lawrence Grahek** and **Tobin Jacks** at Mercy Clinic in Oskaloosa. Dr. Messamer received the M.D. degree from the U. of I. College of Medicine and completed a family practice residency at Iowa Lutheran Hospital, Des Moines. The 1990-91 Physician of the Year Award was recently given to **Dr. Norman Rose**, a Corydon general surgeon. **Dr. Warren Bower**, chief of surgery at Grinnell General Hospital, has been named president of the Iowa Academy of Surgery. **Dr. David Coster** has joined Surgical Associates of Grinnell. Dr. Coster received the M.D. degree from the University of Oklahoma College of Medicine, Oklahoma City, Okla-

homa and completed a general surgery residency at Iowa Methodist Medical Center, Des Moines. **Dr. Arthur Benetti** has retired after 26 years of medical practice in Belmond. Dr. Benetti received the M.D. degree at the University of Michigan Medical School, Ann Arbor, Michigan and served a residency at the Veterans Administration Hospital, Des Moines. **Dr. Linda Hill** has joined Family Practice Associates of Indianola. Dr. Hill received the D.O. degree from the University of Osteopathic Medicine and Health Sciences, Des Moines and completed an internship at Osteopathic Hospital, Portland, Maine. **Dr. Robert Bischoff**, family practice physician in Lime Springs and Cresco, was recently named a diplomate of the American Board of Family Practice. **Dr. Keith Probst** has begun medical practice in Swea City. Dr. Probst received the M.D. degree from Southern Illinois School of Medicine, Springfield, Illinois and served a family practice residency at Mercy-St. Luke's Hospital, Davenport. Prior to locating in Estherville, Dr. Probst practiced in Pinckneyville, Illinois. **Dr. Douglas Miedema** has joined Family Medicine Clinic in Oskaloosa. Dr. Miedema received the D.O. degree from the University of Osteopathic Medicine and Health Sciences, Des Moines and completed a family practice residency in Sioux City. **Dr. Russell Noyes, Jr.**, Iowa City, has been elected president of the American Academy of Psychosomatic Illness.

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## Deaths

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**Dr. Gary Hayes**, 55, Cedar Rapids, died May 25. Dr. Hayes received the M.D. degree from the U. of I. College of Medicine and served an internship at St. Luke's Hospital, Cedar Rapids. Dr. Hayes practiced in Eldora for 7 years until 1972 when he began practice in Cedar Rapids.

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## A Friend to Those It Serves

**I**N HIS INAUGURAL ADDRESS before the American Medical Association House of Delegates in June, Dr. John Ring made this statement about his organization and the physicians across America who are its members.

"What you see now is an AMA that's willing to listen to everyone's point of view. What you see now is an AMA that has examined its values and sharpened its focus to emphasize education, ethics and patient welfare and to represent American medicine as a friend to those it serves."

The AMA tradition of concern for Americans' good health was in the spotlight at the AMA's Annual House of Delegates, as demonstrated by the following public health resolutions acted on by physician delegates (including the Iowa delegation). . .

### *AIDS and HIV-Positive Physicians*

The AMA believes physicians who are HIV positive should refrain from doing invasive procedures which carry an identifiable risk to the patient. The AMA supports mandatory HIV testing of blood and blood fraction donors, breast milk donors, organ and transplant tissue donors and donors of semen or ova for artificial conception. The AMA agrees that HIV-infected people should not be permitted to immigrate to the U.S. The AMA supports uniform protection of the identity of those with HIV infection or disease.

### *Pickup Truck Injuries*

The AMA will develop model state legislation prohibiting any person from riding in the back of a pickup truck which is not equipped with appropriate restraint devices and protection.

### *Nutrition Education*

The AMA will urge federal government to develop and implement dietary guidelines for the nation and will provide input in the formation of those guidelines so they are established on the basis of sound scientific principles.

### *Cigarette Health Warnings*

The AMA will lobby for legislation that would require an increase in the size of the warning label on cigarette packages and reaffirm existing policy to require such labels to include the statement "Smoking is addictive and may result in death."

### *Biomedical Research*

The AMA will work with Congress to establish a uniform method of assuring a prompt, unbiased scientific review of federally funded research projects before grants or contracts can be withheld from any investigator or institution; work with Congress to oppose legislation which inappropriately restricts the choice of scientific models and use of animals in research; support the law which makes it a federal crime to trespass or destroy labs where biomedical research is conducted.

Once again, physicians' concern for their patient's general welfare dominates organized medicine's agenda. As Dr. Ring concluded, "The course the AMA has chosen is the course of professionalism, patient advocacy and personal sacrifice. It is the way of helping all doctors be better doctors."

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August 1991

Iowa Medicine

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R. Bruce Trimble, M.D.



# Health Care Reform Requires Tort Reform

**T**HE INTENSIFYING DISCUSSIONS ON REFORM of the health care delivery system are based largely on the desire to control costs. This is perfectly understandable in light of our many other societal needs, the sad state of national and state budgets and the impact of health care benefits on profitability and international competitiveness of American businesses. Firmly controlling health care costs will mean rationing. Public discussions like those now taking place in Oregon will occur in other areas. These discussions are important and overdue. The public — our present and future patients — needs to understand the issues and participate in the decision-making.

When resources for something as important as health care must be limited, efficient use of these resources becomes critical. It is not acceptable to deny potentially useful care if money is wasted on unnecessary or ineffective services. Organized medicine has taken the lead in calling for better evaluation of new technology, development of practice parameters and appropriate use of small area analysis and various severity and outcome measures.

Ready acceptance and wide use of such information will require tort reform. It is difficult to guide our practices by cost/benefit considerations when we know that if an adverse outcome results in a suit, the plaintiff's attorney may seek to convince a lay jury that the results could have been different had we only done one more test or procedure. In a recent national poll, physicians cited profes-

sional liability as the factor which most interfered with clinical decision making.

I believe this point is apparent to all involved in thoughtful consideration of health care reform. Most proposals advanced so far include tort reform. Several liability reform measures were introduced this year in the U.S. Senate. It has long been recognized that the present tort system increases costs because of expensive liability insurance premiums and limits access to some services, such as obstetrics. New is the recognition that the worst consequence of the present system may be defensive medicine, as this results in additional services and a potential reluctance to fully implement cost-effectiveness guidelines. The AMA estimates that liability premiums and defensive medicine add \$20 billion yearly to physician costs. Consider what even a partial diversion could do to lower costs and increase access.

Tort reform is politically difficult. We may not be able to make a major legislative push in Iowa until there again is a crisis precipitated by the inevitable turn of the insurance cycle. But we can urge our congressional delegation to support national tort reform and discuss the situation with patients and the public. We may find new understanding and new support on the issue.

A handwritten signature in dark ink, reading "R. B. Trimble". The signature is fluid and cursive, with the last name "Trimble" being more prominent.

R. Bruce Trimble, M.D.  
President

# Identifying Drug Exposed Infants

RIZWAN SHAH, M.D.  
Des Moines, Iowa

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***How can physicians determine when a drug screen is indicated for a pregnant woman or a newborn infant? The author, a member of the Iowa Council on Chemically Exposed Infants, provides guidelines.***

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● An uncomplicated full term pregnancy ends in still birth 24 hours after a normal NST. The sudden fetal demise baffles health workers until the woman's husband discloses to the nurses that his wife had been on a "crack binge" for a few days before the child's still birth.

● A 6-week-old infant is seen for the fourth time in a midwest pediatric emergency room due to fussiness, irritability, vomiting, staring gaze and shaking of 2 weeks duration. No neonatal risk factors are identified. Neither are there focal signs of infection. Baby has compulsive suck, tight fists and increased muscle tone in extremities with tremors. The constantly crying child is inconsolable. The infant has undergone 4 formula changes and 2 complete septic work ups in the last 2 weeks. The examining physician questions mother about perinatal drug abuse and receives an affirmative response. "You are the first person who asked about it," she comments.

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Dr. Shah, a pediatrician, is director of the Family Ecology Center in Des Moines.

THE FIRST CASE HAPPENED in New York City, the second in Des Moines. New York City and Des Moines do have something in common — pregnancies affected by drugs and infants exposed to perinatal drug abuse. There are multiple barriers to effective service programs for this special population, a significant one being identification of chemically dependent pregnant women and drug exposed infants.

While being sensitive to the issue of confidentiality and individual freedom as it relates to a chemically dependent pregnant client, health professionals need to consider their responsibility to identify risks which will have significant impact on the outcome of pregnancy and unborn child. Health providers for infants must assess all risk factors including perinatal drug exposure which may compromise outcome for the child.

Efforts of many concerned individuals resulted in Iowa legislation for drug affected babies. The legislation provides immunity from liability for physicians testing babies for perinatal drugs if the physician has reason to suspect such risk exists. The law went into effect in July of 1990. Under current law, physicians must report all positive drug tests on infants to the local human services office in the same manner in which child abuse is reported. Presence of drugs in infants doesn't constitute grounds for a determination of child abuse or for criminal prosecution of the mother, but does allow the Department of Human Services to investigate and offer assistance.

The National Association of Perinatal Addiction and Research offers the following guidelines for identifying drug affected pregnancy and infants through medically indicated drug screen.

Drug screen in a pregnant woman is indicated based on past or current history of:

- Substance abuse
- Prostitution
- No prenatal care
- Unexplained fetal demise
- Precipitous labor
- Abruptio placenta
- Hypertensive episodes
- Severe mood swings and other behavior indicators
- Cerebrovascular accidents/myocardial infarction in pregnant women
- Repeated spontaneous abortions

Medically indicated drug screen is advised in newborns under the following circumstances:

- Maternal indicators already listed
- Small for gestational age infant
- Unexplained prematurity
- Neuro-behavioral abnormalities which indicate drug exposure
- Known urogenital anomalies secondary to perinatal drug exposure
- Vascular accidents in healthy full term i.e., cerebrovascular accidents, myocardial infarction and necrotising enterocolitis

### *Summary*

Better outcome for pregnancy and infant is achieved by identification, intervention and medically appropriate follow up of drug affected pregnancies. Health care professionals should familiarize themselves with the special needs of this special population.

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**Clinical Coordinator, Laura Boisen, M.S.S.W., M.P.A.**



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*An Iowa Methodist Health System Hospital*

# Cocaine and Pregnant Women: A Hospital Study

PATRICK REDDIN, M.D.

BARBARA SCHLIMMER, M.D.

CONNIE MITCHELL, B.S.W.

Des Moines, Iowa

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***How prevalent is cocaine use among pregnant women? This study of pregnant and newborn populations at Broadlawns Medical Center in Des Moines showed positive rates of 7.1% and 3.6%, respectively. The study also showed that accepted risk factors are not reliable indicators of drug use.***

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WOMEN WHO OBTAIN PRENATAL CARE in Broadlawns Medical Center's Obstetrical Clinic are routinely asked about drug use (past or present), particularly cocaine, marijuana, opiates and hallucinogens. In 1987, 12% of these patients said they were using or had used these substances. By late 1989, this number had risen to 31%.

While history taking is helpful, its accuracy is limited because not everyone who uses illicit drugs will reveal it. Even those who admit past use may deny current use. Laboratory screening is required to accurately assess the prevalence of drug use in

the perinatal period. Blinded urine drug screens were performed on pregnant women and newborns for cocaine only. Cocaine was chosen for analysis because of its deleterious effects on pregnant women and babies and because its incidence of use in this population at Broadlawns Medical Center is unknown.<sup>1</sup>

## ***Purpose***

The purposes of this study were:

- To determine the number of pregnant women at Broadlawns Medical Center who use cocaine.
- To determine the incidence of positive screens for cocaine in newborns at Broadlawns Medical Center.
- To determine if known risk factors are reliable indicators of drug use.
- To obtain baseline data for possible further studies/intervention concerning cocaine use.

## ***Newborns Tested***

Urine drug testing for cocaine was done on 250 consecutive newborns from March 1990 to September 1990. The samples were collected in the first 48 hours of life and sent to the laboratory without name or hospital number. An attempt was made to predict which neonates would test positive for cocaine metabolites. One observer rated babies at high risk or low risk for a positive test based solely on newborn factors and a second observer rated babies as high risk or low risk based on maternal factors (Figures 1 and 2). These ratings were made independently.

---

The authors are associated with the Broadlawns Medical Center Departments of Obstetrics/Gynecology and Pediatrics.



#### Newborn Factors

< 37 weeks  
SGA  
Poor feeding in otherwise well infant  
Hypertonic/hypotonic  
High pitched cry  
Increased sucking  
Sweats, vomiting, diarrhea  
G.U. abnormalities  
NEC in full term baby  
Jitteriness

Figure 1. High risk factors for cocaine exposure in newborns.

#### Maternal Factors

History of drug abuse  
Labor < 37 weeks  
Threatened premature labor  
Abruptio placenta  
IUGR  
Altered behavior suggesting recent use  
Erratic, late or no prenatal care

Figure 2. High risk factors for cocaine use by pregnant women.

Each patient attending obstetrical clinic from July to October 1990 (297 women) was tested for cocaine metabolites via blinded urine drug screen. No risk assessment was included for the patients in prenatal clinic.

The method of detection used was radioimmunoassay for cocaine metabolites (RIA kit by Immunalysis Corporation). All positive results were confirmed by repeat testing.

## Results

Nine of 250 newborns tested positive for cocaine (3.6%); 21 of the 297 pregnant women tested had cocaine in the urine (7.1%). A total of 522 samples were submitted. 151 women had one sample, 67 had 2 samples and 79 had 3 samples analyzed. Five women had positive screens on multiple occasions; 4 women tested positive on 3 samples each and one woman tested positive on 2 samples.

Table 1 displays the ratings predicted from each observer, as well as the actual results of the newborn screens.

TABLE 1  
PREDICTIVE RATINGS AND ACTUAL RESULTS OF NEWBORN  
DRUG SCREENS

	High Risk	Low Risk
Maternal Factors	44 (3)	202 (6)
Newborn Factors	34 (2)	216 (7)

( ) = Cocaine positive

## Discussion

In this study, 3.6% of neonates and 7.1% of pregnant women were positive for cocaine. Cocaine remains in pregnant women's urine about 2 days after usage.<sup>2</sup> Newborn infants, however, require up to 4 days to eliminate the drug.<sup>3</sup> Due to the relatively rapid clearance of cocaine and the sporadic nature of drug screening, one can infer some cocaine users were not detected in the study.

There are numerous clinical signs and symptoms in pregnant women and infants that are associated with drug use. This study tried to determine if assessment of clinical risk factors could reliably predict patients who would have a positive drug screen. Of those babies given a high risk rating by either investigator, only 6.4% proved to have a positive drug screen. Furthermore, 2.9% of those babies given a low risk rating by either investigator had positive drug screens. Thus, reliability of these predictive factors appears to be very limited.

Cocaine use is ubiquitous, but prevalence is not the same in all regions of the country. We felt a local study was in order to determine usage at Broadlawns Medical Center (BMC). BMC is a county hospital which serves primarily a low income population. Further studies in other areas are necessary to determine if these results are valid for hospitals elsewhere in Iowa.

## Legal Ramifications

What are the legal ramifications of cocaine found in a pregnant woman and/or a newborn infant in Iowa? Before July, 1990 Polk County Juvenile Court investigated all reported drug exposed newborns. Reportable drugs included alcohol, cocaine, heroin and amphetamines. When the baby's urine

(Continued next page)

test was positive for cocaine, a meeting was held at juvenile court. Pertinent medical information and social assessment of the family unit was considered. Also, a parental contract was presented specifying expectations, including chemical dependency treatment and infant care. If parents agreed, the contract was signed and Child Protective Treatment (CPT) was asked to monitor the case. If parents refused services and the contract, the child was placed with suitable relatives or in foster care. The hospital providing care was not allowed to release the baby without court approval while disposition was pending.

After July 1, 1990 a new section was added to the Iowa Code addressing drug exposed infants. Positive drug screens currently may be reported to the Department of Human Services for investigation. When a newborn tests positive for a drug such as cocaine, individual counties approach the problem of protecting the child and family in different ways. In Polk County, the child protective referral information is kept for 30 days. If the parents refuse services, Juvenile Court is once again asked to become involved. The family is urged to participate in services for a minimum of 6 months.

The child usually leaves the hospital with the drug abusing parent. These cases

are often referred to a CPT worker, but the parent can choose to refuse these services. Thus, there is no effective way to monitor outcome. Legislative review is underway with input from many disciplines to put laws in place that will better monitor and protect drug affected mothers and babies.

The use of cocaine, particularly in the perinatal period is a complex issue. Cocaine is health and life threatening and, in pregnancy, involves the consenting adult and a defenseless infant. Our experience with medically indicated, non-blinded, positive drug screens has been discouraging. Some patients deny cocaine use or say it is not a problem. Many refuse drug rehabilitation and those who begin a treatment program often drop out. Recidivism is high, even in those who complete treatment.

Obviously, concerns regarding cocaine affected mothers and babies are multi-faceted; solutions will require the input and cooperation of many disciplines.

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## Yes, You Can Help

- *Do you want to increase public awareness of the effects of alcohol and other drugs on unborn babies?*
- *Would you like information on identifying and caring for patients who use alcohol and other drugs during pregnancy or lactation?*

**The following educational materials are available from the Iowa Department of Public Health . . .**

1. A 24 x 18 color poster for physicians' offices (shown at right in black and white)
2. A physicians' resource manual for identifying women using alcohol and other drugs during pregnancy. Includes a protocol card which can be used in patient screening
3. Brochures for patients on the dangers of using drugs and alcohol during pregnancy
4. Bookmarks and a paperweight baby bottle

**Call 1-800-247-0614 to get these materials free!**



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Iowa Substance Abuse Information Center

***When You Use, So Does Your Baby!***

# Iowa's Infant Mortality: Looking Worse, Doing Better

HERMAN HEIN, M.D.  
Iowa City, Iowa

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***Interstate comparisons of infant mortality data can be misleading unless causes of infant death are considered, says this author. In Iowa the percentage of preventable deaths dropped almost 35% in recent years.***

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IT IS NOT UNUSUAL TO READ comparisons of various health outcome rates among the states and internationally. These measures are presumably offered to allow state and federal governments the opportunity to recognize a performance level which is below par. Perhaps it is also fair to assume that the opportunity for gloating is offered when the rates compare favorably.

This article alerts Iowa physicians to the capricious nature of such comparisons and to the dangers inherent in comparing perinatal mortality rates. The most commonly quoted and compared among the perinatal rates is the infant mortality rate. This rate provides the number of deaths of babies prior to reaching their first birthday expressed per 1,000 live births. My comments

will be largely limited to Iowa mortality data for the last 4 years.

## Methods

State birth and mortality data were obtained from the *Annual Summary of Vital Statistics* published by the Iowa Department of Public Health for the years 1986-1989. Information referable to national data was obtained from the *Monthly Vital Statistics Report* published by the National Center for Health Statistics. Selected causes of death that constituted a substantial majority were listed and among these, including deaths due to congenital anomalies, sudden infant death syndrome (SIDS) and deaths of newborns weighing less than 500 grams at birth were considered currently unpreventable.

## Results

The tables provide information for 1986-1989. Table 1 shows there has been little change in live births over those 4 years. There is no clear trend in the infant mortality rate. The rate of 8.2 for 1989 is the lowest resident rate ever reported in Iowa and slightly below the rate for 1986 when Iowa ranked second in the nation.

Perhaps the most useful information is found in Table 2 which shows causes of death. SIDS deaths have remained about the same; deaths of very small (< 500 grams) neonates and deaths due to congenital anomalies reached a peak in 1989. Total deaths have changed little over the past years, but the percentage of nonpreventable deaths steadily increased during this period. A recent national figure (1987) for nonpre-

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Dr. Hein is a professor of pediatrics with the University of Iowa College of Medicine. He is director of the Iowa Statewide Perinatal Care Program.



**TABLE 1**  
**IOWA BIRTH AND INFANT MORTALITY DATA\***  
**1986-1989**

	1986	1987	1988	1989
Live births	38,748	37,866	38,070	38,916
Infant deaths	327	343	330	321
Infant mortality rate per 1,000 live births	8.4	9.1	8.7	8.2
Non-preventable deaths**	181	189	194	212
(percent)	(55.4)	(55.1)	(58.8)	(66.1)
Corrected infant mortality rate	3.77	4.07	3.58	2.80

\*Resident data with exception of <500 gm births which are by occurrence.

\*\*<500 gm births, SIDS and lethal congenital malformations.

**TABLE 2**  
**CAUSES OF INFANT DEATHS IN IOWA\***  
**1986-1989**

Cause	1986		1987		1988		1989	
	No.	%**	No.	%	No.	%	No.	%
Perinatal-associated	138	42.2	148	43.1	133	40.3	130	40.5
< 500 gm	44		41		45		55	
500-1000 gm	51		56		59		52	
Lethal congenital anomalies	82	25.1	81	23.6	85	25.8	95	29.6
Sudden infant death syndrome	55	16.8	67	19.5	64	19.4	62	19.3
Totals	275	84.1	296	86.3	282	85.5	287	89.4

\*Resident data with the exception of <500 gm births which are by occurrence.

\*\*Percent of total infant deaths.

ventable causes is 43.4% which is considerably below Iowa's recent rates.

### ***Some Infant Death Unavoidable***

Meaningful analysis of mortality data must include an appreciation of the major causes of death and the potential preventability of these deaths. The issue of preventability must be examined regularly because causes that are not preventable now may become so with new medical knowledge.

In my opinion, several causes of infant death are unpreventable. First, few babies born weighing <500 grams live more than briefly. Next, lethal congenital anomalies are just that. Perhaps better techniques of genetic intervention may someday help us prevent some of these conditions; but for now, these unfortunate babies are destined to die. Finally, SIDS continues to elude our best efforts at prevention.

Obviously, it is important that a proper diagnosis is made in each of these cases. In

Iowa, the state medical examiner requires a postmortem in suspected SIDS cases. This reduces the chances of misdiagnosing a potentially preventable cause of death. I do not believe the medical care system can be held accountable for deaths due to conditions which are beyond our current abilities.

The likelihood that comparisons of interstate mortality data will be misleading increases as the rates decline. This is due to several factors, not the least of which is the "tyranny of small numbers." Simply put, when the denominator is small (total births) as is the case in the Dakotas, Wyoming, Montana, etc., the infant mortality rate may seem to be very good or very bad by virtue of only a handful of events. For example, if a state reports 10,000 live births, 100 infant deaths would yield a rate of 10 per 1,000 live births. Ten fewer or more SIDS deaths and a similar number of congenital malformations can dramatically swing the rate 4 points,

*(Continued next page)*

enough to go from near the top in a national ranking to a position near the bottom. Yet, in this hypothetical situation, the only difference between the rates of 8 and 12 per 1,000 live births is a relatively small number of deaths which, assuming the diagnosis is accurate, are currently unpreventable. Rather than basing impressions solely on interstate comparisons, it is important to analyze the components of the infant mortality rate and compare these data with previous state data.

The 4 years of Iowa data in Tables 1 and 2 provide another interesting example. However, the numbers are not hypothetical. In 1986, Iowa's infant mortality rate ranked second in the nation. When 1987 data were released, we fell to 14th. Questions were raised about the quality of our perinatal health care system. What had gone wrong? Actually, nothing had gone wrong. Review of the data in Tables 1 and 2 reveal that 12 additional SIDS deaths occurred in 1987 when the birth population was down nearly 900 births. Overall, the percentage of non-preventable deaths for the 2 years was almost identical. Thus, there was little to suggest the need for major revision of our health care system.

Comparison of the years 1986 and 1989 is even more intriguing. One would hope that in a progressive perinatal system, the infant mortality rate would fall more than 0.2 per 1,000 live births over 3 years. Should Iowans be disappointed in this meager decline?

Analysis of the data provided for the 2 years suggests some answers. Overall, the statewide infant mortality rate dropped from 8.4 to 8.2. However, deaths due to currently unpreventable causes increased in 1989. There were 11 more deaths due to extremely low birth weight (< 500 grams), SIDS deaths were up by 7 and congenital anomalies increased by 13. Overall, unpreventable causes accounted for an increase of more than 10% when 1989 is compared with 1986 (66.1% vs 55.4%). It should be noted that Iowa compares very well nationally in percentage of deaths due to unpreventable causes given the national figure of 43.4% for 1987 (Table 1).

To further illustrate the significance of considering preventable causes of death when reviewing mortality data, compute the infant mortality rate for potentially prevent-

able deaths in each year. I call this the "corrected infant mortality rate." To make this calculation, unpreventable deaths are subtracted from the total number of infant deaths and a new rate is computed per 1,000 live births. These rates are shown in Table 1.

Comparing overall infant mortality rates with the corrected infant mortality rate reveals a dramatic difference between the years 1986 and 1989. The overall difference is only 2.44%, but the difference in corrected rates is 34.65%. Though the infant mortality rate changed little over 3 years (looking worse), we made dramatic improvements in areas which could potentially be controlled by the health care system (doing better).

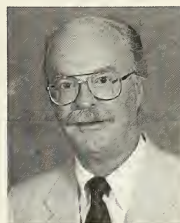
## **IDPH Concerned About Fetal Alcohol Syndrome**

The Iowa Department of Public Health is taking steps to prevent problems such as Fetal Alcohol Syndrome (FAS). FAS is responsible for approximately 5% of all congenital abnormalities.

Health care providers who are concerned about someone who may have a drug-affected infant can contact their local substance abuse agency. Services, phone numbers and addresses can be found in the substance abuse directory compiled by the Division of Substance Abuse of the IDPH or in the yellow pages of the phone book. In addition, many types of education and prevention materials are available from the Iowa Substance Abuse Information Center at the Cedar Rapids Public Library, 1-800-247-0614.

Publications are on the market, such as the *Broken Cord*, a book by Michael Doris describing the impact of FAS on an affected teenager and his adoptive family. Another excellent resource is *Peace of Mind During Pregnancy: An A-Z Guide to the Substances that Could Affect Your Unborn Baby*, written by Christine Kelley-Buchanan.

Peter Wallace, M.D.



# Prevalence of Fetal Alcohol Syndrome Largely Unknown

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*Awareness of Fetal Alcohol Syndrome is growing but accurate statistics on its prevalence are hard to come by, says this Iowa City pediatrician and chairman of the IMS Subcommittee on Maternal and Child Health.*

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**How does the Fetal Alcohol Syndrome manifest itself in children? How prevalent is it in Iowa?**

Fetal Alcohol Syndrome (FAS) is characterized by pre- and post-natal growth retardation, facial deformities such as a short nose, long and smooth philtrum, or a smooth and thin upper lip and various neurologic abnormalities including seizures, microcephaly and intellectual deficits.

The incidence of FAS in Iowa is not known. Nationally it occurs once in 300 to 1000 births and we can assume that Iowa's statistics would be no different.

**What is considered an unsafe level of alcohol consumption for pregnant women?**

No one knows what level of alcohol consumption results in FAS. We do know that 2-8% of alcoholic women have affected babies. The typical mother of an FAS child took an average of 14 drinks a day during her pregnancy.

FAS is the end of a spectrum of often subtle abnormalities such as irritability, hyperactivity and slightly sub-average mental development, known as Fetal Alcohol Effect (FAE). The problem facing us is knowing how much

alcohol consumption results in what degree of severity of FAE.

**Is there any time during pregnancy when drinking is more dangerous to the fetus?**

The first trimester of pregnancy is the most susceptible period for any fetal insult — infection, teratogens or substances such as alcohol, marijuana and tobacco. However, brain development is ongoing throughout gestation so we can assume alcohol abuse would have adverse effects throughout the entire pregnancy.

**Do physicians have an obligation to question pregnant patients about alcohol use?**

I believe they should, just as they ask about smoking, drug use and other harmful activities which have the potential to hurt their babies. However, since we don't know how much alcohol use causes problems, we must be careful not to make a woman who took a few drinks feel guilt-ridden throughout her pregnancy and beyond.

Perhaps a fair question to ask is what is the benefit of drinking or smoking at all during pregnancy?

**What is being done in Iowa to prevent Fetal Alcohol Syndrome among our children?**

To my knowledge, we have no formal program in Iowa to prevent Fetal Alcohol Syndrome. We do not even have accurate statistics on its prevalence. Perhaps since international research is ongoing and we learn more each year, an effort to collect data and create a prevention program would bear fruit.

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8<sup>TH</sup> ANNUAL

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# Fatal Pertussis in an Iowa Infant

MARK CORKINS, M.D.

CHARLES GROSE, M.D.

Iowa City, Iowa

THERESE HALBUR, M.D.

Ames, Iowa

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***Much media attention has been paid to neurological disease induced by DPT vaccine, but what about the risk of pertussis to unimmunized children? The authors present a case report of fatal whooping cough in a 5-week-old baby.***

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**W**HOOPING COUGH CONTINUES TO BE a life-threatening infection for Iowa children. This article describes an Iowa infant who, despite all appropriate medical measures, died of respiratory failure caused by pertussis. Physicians should continue to administer DPT immunizations to all eligible infants, beginning at 2 months of age.

## Case Report

A 5-week-old female infant was seen by her family physician for an upper respiratory

infection at 3 and a half weeks of age. Three days after being seen, she developed fevers to 39°C and a severe cough. The coughing spells led to gagging episodes with vomiting and prolonged cyanotic spells. When the episodes became more severe, the physician started oxygen and administered one intramuscular dose of an antibiotic. The patient was transferred to McFarland Clinic in Ames.

Laboratory studies at the time of admission were remarkable for a chest radiogram showing hyperexpansion of the right upper and lower lobes with perihilar infiltrates and a white blood cell count of 115,000 per cu mm with approximately 50% neutrophils and 50% lymphocytes plus monocytes. (Extremely high white cell counts are seen in neonates with pertussis.) Nasal swab was performed for the fluorescent antibody test for pertussis antigen. The patient maintained high oxygen saturation level while on 40% oxygen and resting, but the levels dropped sharply when she cried or coughed. Due to the patient's respiratory distress, she was transferred to the University of Iowa Pediatric Intensive Care Unit.

Upon arrival, the patient was evaluated and continued on antibiotics, including erythromycin. Chest radiogram showed right upper lobe collapse and extensive perihilar infiltrates (Figure 1). Although the patient's course was stable for several hours, she later developed more labored breathing with a fall in blood pH. Therefore, the infant was intubated and ventilated. Several hours later the patient's blood pressure began to fall and intravenous pressor agents were administered. However, despite all supportive measures, the patient suffered

Dr. Corkins is a pediatrics resident at the University of Iowa. Dr. Halbur is a pediatrician practicing in Ames. Dr. Grose is professor and director, Department of Pediatrics Division of Infectious Diseases, University of Iowa Hospitals.

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR SEPTEMBER 1991

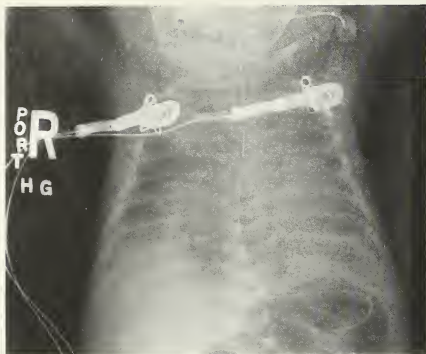


Figure 1. The portable chest radiogram demonstrates diffuse perihilar pulmonary infiltrates, hyperinflation and right upper lobe collapse. The infant died within 18 hours after this film was taken.

prolonged hypotensive periods that were resistant to treatment. She failed to respond to further resuscitative maneuvers and expired about 18 hours after her arrival in the intensive care unit.

The patient's pertussis antigen tests from nasal washings were positive both in Ames and at University Hospital. At autopsy, examination of stained sections of lung tissue demonstrated typical bacteria of *Bordetella pertussis*.

## Discussion

In the first half of the century, whooping cough outbreaks often occurred among younger grade school children, where the death rate was 1% or higher. More recently, the mortality rate from pertussis has dropped to approximately 0.1%. Nevertheless, the mortality from the disease pertussis (1:1000) is considerably higher than the incidence of severe and permanent central nervous system complications from the pertussis vaccine (1:300,000). In the numerous debates over pertussis vaccination policy, the fact that fatal pertussis still occurs is often forgotten.

In the 1970s, infectious disease specialists reported a shift in the epidemiology of pertussis with a marked increase in the number of cases occurring during the first year of life.<sup>1</sup> At the Fifth International Symposium on Pertussis, the Centers for Diseases Control re-

ported infants under 6 months of age had the highest average incidence of pertussis, with 55 cases per 100,000.<sup>2</sup> A recent review of hospitalizations for pertussis found that two-thirds of these patients were under 4 months of age.<sup>3</sup> The same group accounts for virtually all pertussis related deaths. Of this population, 65% had received no immunization and 24% only one. Thus, even one immunization may have some benefit; 2 DPT immunizations definitely offer much more protection from serious disease.

The source of most infantile pertussis infections is an adult with asymptomatic or sub-clinical disease.<sup>1,3,5</sup> These are often individuals with complete childhood immunizations for pertussis. It has become apparent that in adults the antibody response declines over the decades and individuals are protected from symptomatic disease but not colonization.<sup>2,4,5</sup> Thus, there is a reservoir of individuals, including many young adults in the child rearing years, who can transfer the bacteria to the unprotected newborn. In view of this finding, it has been suggested a regular adult immunization against pertussis be introduced.<sup>2,4</sup>

## Conclusion

This case has been presented to raise awareness of the increasing incidence of whooping cough and its complications. This case is also an example of the shift in disease towards younger patients who are unprotected from pertussis and are the most likely to suffer severe consequences, including death. The diagnosis of pertussis must be considered in any infant with severe respiratory distress occurring before completion of the protective DPT immunization series. Unlike most other serious respiratory infections, pertussis occurs during all months of the year. When the diagnosis of pertussis is confirmed in an unimmunized infant, hospitalization within an intensive care facility is often required.

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# HIV Infection in Childbearing Women

JANE GETCHELL, DR.P.H.  
W. J. HAUSLER, JR., PH.D.  
MICHAEL RAMIREZ  
Iowa City, Iowa

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*A blinded survey of HIV infection in childbearing women is being conducted in 43 states and territories. After one year of participation in the survey, 6 of 37,846 women bearing live children in Iowa were found to be infected with HIV.*

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**H**IV/AIDS IS AMONG THE 10 leading causes of death in women of reproductive age and the death rate for HIV/AIDS continues to rise.<sup>1</sup> The number of children developing AIDS will continue to increase over the next few years, even if the incidence of HIV infection in women of childbearing age remains unchanged.

In an effort to draw attention to the effect of HIV infection on the mortality of women and their children in Iowa, this article presents data from ongoing surveillance and seroprevalence studies, focusing primarily on the survey of HIV infection in childbearing women.

During its 1988-1989 session, the Iowa Legislature approved legislation which en-

abled Iowa to join 42 other states and territories in HIV serosurveys of childbearing women. The surveys are expected to continue for up to 5 years.

The purpose of these surveys is to reveal trends in the spread of infection among childbearing women, determine the potential impact of HIV infection on babies, target financial resources necessary for epidemic control and assist in evaluating the effectiveness of intervention strategies. Since the surveys are completely blinded informed consent is not required and the data obtained are unbiased by self selection.

## HIV Testing

The presence of HIV antibodies is determined by using filter paper blood spot specimens obtained from newborns. These specimens are those routinely collected from all newborns and submitted to the Des Moines laboratory of the University Hygienic Laboratory (UHL) for detecting phenylketonuria (PKU), hypothyroidism and other genetic and metabolic disorders. Since maternal IgG antibodies cross the placenta, serological testing of the newborn reflects the antibody status of the mother, not necessarily infection of the newborn. Data have shown approximately 30% of HIV antibody positive newborns are infected.<sup>2</sup>

HIV testing is performed on the blood specimen remaining after completion of the routine newborn screening tests. No names or other identifying information are retained for the HIV survey database. Demographic variables are retained only in the form of aggregate data.

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The authors are affiliated with the University of Iowa's State Hygienic Laboratory. This study was funded by the Iowa Department of Public Health through a grant from the Centers for Disease Control.



Testing is done at the Iowa City laboratory of the UHL using the enzyme immunoassay (EIA) as the screening test. All specimens reactive on repeat testing by EIA are further examined using the more specific Western blot (WB) test. Specimens giving an indeterminate result by WB are considered negative. A positive Western blot is one showing reactivity with 2 of the 3 bands p24, p31 and gp 120/160.<sup>3, 4</sup>

## Prevalence Data

In states outside the midwest seroprevalence of HIV antibody ranges from a low of 0.4/1000 specimens tested in Colorado and New Mexico to a high of 6.6/1000 in New York and 12.5/1000 in New York City alone. In childbearing women in selected midwestern states (Table 1) the highest HIV antibody prevalence is seen in Illinois with 0.9/1000 for the state as a whole and 1.4/1000 in Cook County. When Cook County data are excluded the rate falls to 0.3/1000.

## HIV/AIDS in Iowa

Table 2 shows the prevalence of HIV antibody in childbearing women in Iowa. From July 1, 1989 to June 30, 1990 the Iowa Newborn Screening Program (INMSP) received 39,630 blood specimens. Of these, 37,846 had sufficient blood remaining after newborn screening for HIV antibody testing. Statewide the seroprevalence was 0.16/1000. The prevalence in Polk County was 0.4/1000. The combined prevalence in other metropolitan areas was 0.19/1000, with no positive specimens found from birthing centers serving predominantly rural areas of Iowa.

These results are consistent with findings in Michigan and Wisconsin that HIV infection is more prevalent in major metropolitan areas. While information on mother's age became available in January 1990 through a change in information requested by the INMSP, information on race is not available since it is not requested for newborn screening purposes.

The Iowa seroprevalence data indicate between July 1989 and June 1990 at least 6 infants were born to HIV seropositive mothers; thus 1 in 6,308 childbearing women in the state was infected with HIV. We have no way of determining if these women knew their infection status, but a study conducted in Minnesota showed two-thirds of the HIV positive women

**TABLE 1**  
PREVALENCE OF HIV ANTIBODY IN CHILDBEARING  
WOMEN IN SELECTED MIDWESTERN STATES 1988, 1989

State	Specimens Tested	Seroprevalence Per 1,000
Illinois	31,790	0.9 (Statewide)
	15,937	1.4 (Cook County)
	15,853	0.3 (Rest of state)
Michigan	144,261	0.7 (Statewide)
		1.3 (7 southeastern counties)
		0.2 (Rest of state)
Missouri	25,613	0.4
Minnesota	51,870	0.3
Ohio	45,000	0.37
Wisconsin	33,574	0.27

Data provided by the US. Centers for Disease Control.

**TABLE 2**  
PREVALENCE OF HIV ANTIBODY IN CHILDBEARING  
WOMEN IN IOWA, JULY 1989–JUNE 1990

Location	Specimens Tested	Number Positive*	Seroprevalence Per 1,000
Statewide	37,846	6	0.16
Polk County	7,234	3	0.40
Other metropolitan areas	15,637	3	0.19
Rural areas	14,975	0	0.00

\*Three of the positives were in women ages 20-34. Age information was not available for the remaining 3 positives. Race information was not available.

detected through the newborn survey were not receiving medical care for HIV infection.<sup>5</sup>

Using 33% as the proportion of HIV infected newborns from HIV seropositive births we estimate that 2 HIV infected babies were born during the study period. However, no new cases of pediatric AIDS have been reported in Iowa in almost 2 years and only one of the 3 pediatric AIDS cases reported in Iowa since 1983 is thought to be due to perinatal transmission. This apparent inconsistency may be due to recent escalation of HIV transmission in childbearing women or to underreporting of pediatric AIDS, perhaps due to underrecognition of the disease in babies and children.

For comparison purposes, Table 3 shows the prevalence of HIV antibody in select population groups in Iowa. The prevalence is highest, 23.7/1000, in alternate test sites —

(Continued next page)

TABLE 3  
PREVALENCE OF HIV ANTIBODY IN SELECT POPULATION  
GROUPS IN IOWA, JUNE 1985-JUNE 1990

Population	Specimens Tested	Number Positive	Seroprevalence Per 1,000
Alternative test sites	35,554	842	23.7
Prison inmates	14,028	28	2.0
All applicants for military service	36,805	10	0.3
Female applicants for military service	4,682	1	0.2

designated county health departments and clinics where persons who believe they may have been exposed to the virus can go for testing and counseling. The prevalence in entrants to Iowa prisons is 2.0/1000, in all applicants for military service 0.3/1000, and in female applicants for military service 0.2/1000, a rate similar to that observed in childbearing women.

Of 200 cases of AIDS reported to the Iowa Department of Health from February 1983 through July 1990, 183 were in males and 17 in females.

### The Future

Figure 1 shows the total number of cases in women (right ordinate) compared to the total number of cases in men (left ordinate) for each year since 1984. From 1985 through 1987 the number of cases in women remained fairly stable while there was nearly a 5-fold increase in the number of cases in men.

Beginning in 1988 the number of cases in women has nearly doubled each year. A parallel can be seen between the increase in cases in women from 1988-1990 and the similar

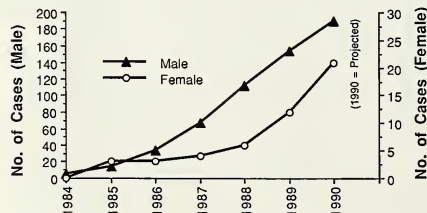


Figure 1. AIDS cases in Iowa by sex of patient, 1984-1990.

though perhaps more dramatic increase in cases in men from 1984-1987. Our health care education and social service systems have an opportunity to affect the spread of HIV infection in women. Hopefully the marked yearly increases seen in cases among men will not be seen in cases among women and the children they bear. Data from the seroprevalence survey clearly show HIV testing should be a routine component of prenatal care, especially in metropolitan areas.

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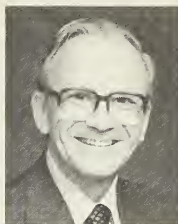
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Marion E. Alberts, M.D.



# In Defense of the Little Ones

CHILD ABUSE IS NOT UNIQUE to our society. Innocent children, traditionally the object of adult attention and pride, are the victims of some of the most heinous abuses recorded in history. Primitive societies practiced such abuses as infanticide or ritual sacrificing of children. Children were mutilated in horrendous ways, often to prepare the child for adulthood, e.g. ritual operation on the genitals. Scarcity of food and non-productivity often meant the sacrifice of the weakest ones on the scale of value. Strange forms of religious ardor would dictate sacrifice of infants. Often the mother was the only protection for the child, but unfortunately the mother was subjective to the males.

Even among the Greeks and Romans the male element was glorified and the female babies, as well as infants with congenital defects, were sacrificed. Plutarch declared the destruction of one's own children to be oftentimes a great and virtuous action. On the other hand, the ancient civilizations of Egypt and Babylon were kindest to their children by virtue of a matriarchal societal attitude.

Even today uncivilized cultures throughout the world (in South America, New Guinea and the Congo) accept forms of child abuse. These uncivilized people can be very kind and intimate with their offspring and yet practice mutilation in the name of a religious ritual or "preparation" for adulthood.

The plight of children in the U.S. is not a problem characteristic only to the present time. In the late 1800s and early 1900s thousands of immigrants came from Europe to join their countryfolk seeking jobs in the newly industrialized urban areas of the eastern U.S. But, jobs were scarce and pay was low. Many families were forced to desert their children. An estimated 10,000 homeless urchins roamed the streets of New York City at any given time and hundreds of newborn babies were left to die on the streets. Many of the homeless children, like those of today, were compelled to resort to crime or prostitution as a means of survival.

The churches gave aid to save the children from death or a living death. In 1853 a group of Protestants in New York organized the Childrens Aid Society, opening several orphanages. In 1869 the Sisters of Charity started the N.Y. Foundling Home. Then a dilemma arose; there were more children than the orphanages could accommodate. In 1876 the N.Y. Foundling Hospital began sending children, 50 at a time, in special railroad coaches to Nebraska, Kansas, Colorado, the Dakotas and Iowa. The "orphan trains" continued to operate for nearly 50 years and an estimated 100,000 children were transported from city slums to the Midwest. Few were legally adopted, but an indenture system was set up to guarantee

*(Continued next page)*

"fair and equitable treatment" of the children.

Persons wanting to take a child into their home met the trains, selected a child from a "line-up" and signed the proper papers. Babies not claimed were lined up in baskets at the back of the churches so the parishioners could look them over after the services. All leftover children would be returned to the train to go on to the next stop. The greatest movement of these children oc-

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*"The "orphan trains" continued to operate for nearly 50 years and an estimated 100,000 children were transported from city slums to the Midwest."*

---

curred in 1910 involving children from 4 months to 3 years of age. The children eventually became farmhands or domestic help . . . a form of slave labor, if you will. At least the urchins from the streets of New York were given care and food and shelter, though records reveal many of them were subjected to abuse.

Present day statistics reveal that 37 million American children live in poverty. The increasing number of homeless women and children is shocking. That homelessness and destitution exist at all in our affluent society is offensive. Homelessness compromises physical and mental health and eventually erodes the total well-being of the victim. Love, tenderness and caring are in short supply to the children victimized by such a social blight. Crime, despair and abuse become a component of their life-style. Today, a new dimension has been added to the problem . . . alcohol and drugs.

The neglect of our children has become a blight on our social structure. The infant mortality rate in America is higher than in some third-world countries. Nearly 5,000 low birth weight infants are born every week in the U.S.; these babies are at a much higher risk for serious illnesses and disabling conditions. Each year as many as 1 million teenagers become pregnant; 18% of new-

borns in some large city hospitals are victims of transplacental exposure to alcohol, crack and other hard drugs. The use of drugs, alcohol and tobacco by youngsters is mind boggling. The plight of newborn infants victimized by their drug-using mothers borders on criminal action.

What is to be done? Congressional appropriations are not enough. Awareness of this national emergency is paramount. Individual awareness and cooperative, well-planned coordinated efforts are essential. All levels of our society in concert with well-meaning, serious-minded governmental agencies must become involved. NOW! Talk must be constructive; action must be definitive. Though I take this writing a bit out of context, St. Luke had an admonition that was a bit strong, but does give food for thought: "It were better for him that a millstone were hanged round his neck, and he be cast into the sea, than that he should offend one of these little ones." I do not recommend abuse in retaliation for abuse, but a strict line must be drawn against the plight of so many of our children. — M.E.A.



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## Recent Books

Arehart, Lynda and Margaret Torrie, 1990, *Understanding HIV/AIDS: A Workbook Suitable for Mainstreamed Students*, Iowa State University Press, Ames, Iowa, paperback, \$4.95. *Understanding HIV/AIDS* is written to inform the student about transmission of AIDS and methods of preventing its spread. It is especially directed to special-needs and middle and secondary school students. The book emphasizes responsible sexual behavior along with decision-making skills and values clarification. The workbook is unique in that it not only deals with the occurrence and transmission of AIDS but also with the rights and needs of people with AIDS. A teacher's guide is available which includes objectives, learning activities, specific learning outcomes, tests and reading resources.

Evert, D. Merrill, editor, 1990, *A New Agenda for Medical Missions*, A MAP International Monograph, MAP International, Brunswick, Georgia. This monograph, one of numerous available from MAP International, challenges the medical profession to serve the world's poor. Continuing searches must be made for better ways to promote health within a Christian environment throughout the world.

Sacks, Oliver, 1990, *Seeing Voices: A Journey into the World of the Deaf*, Harper Collins, New York, New York, paperback \$8.95. Can you imagine living in a society without language? The author, professor of clinical neurology at Albert Einstein College of Medicine, explores the world of the deaf though not deaf himself. After a short discourse on the history of deafness and the development of signing, he embarks on his voyage in the strange world of silent communication. His insight of the deaf culture is thought-provoking. The third section of this book is devoted to the 1988 "strike" of the students of Gallaudet University resulting in their demands for a deaf president. Founded 124 years ago, the school had never had a deaf president. The students and faculty won their battle ushering in a new movement in the education of the deaf.

# YOCON® YOHIMBINE HCl

**Description:** Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubiaceae and related trees. Also in Rauwolfia Serpentina (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it, however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yoccon® is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.<sup>1,2</sup> Also dizziness, headache, skin flushing reported when used orally.<sup>1,3</sup>

**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence: 1.3-4.1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.<sup>3</sup>

**How Supplied:** Oral tablets of Yoccon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

### References:

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4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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Richard M. Caplan, M.D.



## Reductionists and Wholists

**M**ODERN SCIENTISTS, MEDICAL OR OTHERWISE, are often (pejoratively) termed reductionists, because they seek to understand the physical universe more fully by analyzing or breaking down the objects of inquiry into ever smaller units of structure and function. This tends to produce a preoccupation with components and measurements rather than wholes and qualities — membrane receptor sites, for example, rather than “people,” neurotransmitter substances rather than “thoughts.” The tendency isn’t new: Goethe is said to have lamented the improvements of his day in the power of microscopes to discern ever smaller structures. Similarly, the shift in focus of attention from person (macro) to particle (micro) lies behind some of the current disaffection with the medical profession.

Modern scientific effort is easily tracked as an extension from the earliest recorded effort of Greek (western) philosophy. When those thinkers whom we now call philosophers began to speculate about the world around them, their effort centered on identifying the basic substance of which everything was made. So the earliest, Thalles, claimed water; Anaximander asserted air, which by rarefaction became fire, or by compression, water or earth; Pythagoras thought number; Heraclitus named change; and Democritus took a different tack, remarkably modern-sounding, asserting the existence of tiny identical and indivisible particles he named atoms (meaning not able to be cut).

At the time we call the Renaissance, thinkers began to argue forcefully with the notions

and power of supra-human entities (God, the Church, the monarch). Their interest and concern lay increasingly with humans, and thus they were called “humanists.” I will hardly claim they have “won” in the competition between man and the supernatural, or “lost,” either, since a dichotomy need not be posed. But the ground has shifted in the secular effort of science to inquire into smaller things. Now humanists are identified as those who seek to value the entire human being — not in contrast to giants, angels or enormities of whatever description, but rather in contrast to sub-atomic entities like the quarks and photons of physics, for example, or to the antibodies, enzymes or intracellular messengers established by the instructions from genes.

The famous words of Alexander Pope, “The proper study of mankind is man,” were preceded by the often-forgotten words, “Presume not God to scan.” Were he to write today, his caution might read “Presume not only ribosomes to scan.” A long march: from the rule of God, to the rule of man, to the rule of DNA. Humanists argue that complete human beings deserve at least equal billing with pi mesons or chromosome fragments.

The tension between reductionists (scientists) and wholists (humanists) will continue indefinitely because personal tastes and values are involved. And perhaps that is actually healthy, for only in the pendulum’s swing is time measured and progress achieved.

What is the physicians’ place in this continuum? In my view they should remain wholists, focusing on the total person, while knowing and using whatever scientific knowledge can assist their prime function of helping prevent and relieve illness.

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Dr. Caplan is Associate Dean for Continuing Medical Education at the University of Iowa College of Medicine.

## Maternal-Fetal Conflicts

IN THE VAST MAJORITY OF PREGNANCIES, the interests of the pregnant woman and the projected interests of the fetus coincide. For that reason, most medical interventions during pregnancy are unproblematic: the medications and treatments given to a pregnant woman do not pose undue risk of harm to the fetus and interventions to diagnose and treat a fetus are done with the consent of the pregnant woman.

However, 2 kinds of situations occur in which the interests of the pregnant woman and the projected interests of the fetus are in conflict. First, a pregnant woman can refuse to consent to a diagnostic procedure, medical therapy or surgical procedure that would promote fetal well-being and possibly save the life of the fetus (e.g., a cesarean delivery for fetal distress). Second, the behavior of a pregnant woman in terms of her health care or life-style can have harmful short-term and long-term consequences for the life and health of the fetus (e.g., the use of alcohol or cocaine).

What are the responsibilities of the woman's physician in these situations? To what extent can he or she try to convince the woman to change her mind or her behavior? If attempts at education and persuasion fail, should the woman be arrested in the delivery room on charges of child abuse or trafficking in illegal drugs?

At the present time, the best ethical advice for such situations of conflict comes from 2 sources: the most recent appellate-level court decision concerning forced treatment of a pregnant woman and the policy statement published by the ethics committee of the American College of Obstetrics and Gynecology (ACOG).

The case called *In re: A.C.* was a decision by the District of Columbia Court of Appeals in 1990 to overturn a trial court decision 3 years earlier in the Angela Carder case. The original decision had permitted a cesarean section to be done on a George Washington University Hospital patient who was 26 weeks pregnant and expected to die from cancer within days — even though she, her family and her attending physicians had agreed that the delivery of the baby was secondary in importance to keeping her comfortable as she died. The baby died within hours of delivery and Carder died 2 days later.

The decision by the Court of Appeals emphasized the importance of patient autonomy: "We hold that in virtually all cases the question of what is to be done is to be decided by the patient — the pregnant woman — on behalf of herself and the fetus."


When the ACOG addressed the issue of maternal-fetal conflict in 1987, the ethical position taken was quite clear: "The role of the obstetrician should be one of an informed educator and counselor, weighing the risks and benefits to both patients." Consultation with physician colleagues, other parties to a case, an ethics consultant or an institutional ethics committee may help to resolve the conflict. However, coercion to obtain consent or force a course of action should be avoided: "The use of the courts to resolve these conflicts is almost never warranted."

The ACOG position on maternal-fetal conflict was repeated in a bulletin in 1989: "The obstetrician should make an effort, through discussion and consultation, to make the woman aware of the implications of her actions for the health of the fetus . . . no other party, including the state, should override her autonomy in order to enforce [her] obligations."

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This column is written by Robert Weir, Ph.D., director of biomedical ethics for the University of Iowa College of Medicine.





**If you haven't had  
a mammogram,  
you need more than  
your breasts examined.**

A mammogram is a safe, low-dose X-ray that can detect breast cancer before there's a lump. In other words, it could save your life and your breast.

If you're a woman over 35, be sure to schedule a mammogram. Unless you're still not convinced of its importance.

In which case, you need more than just your breast examined.

Find the time. Have a mammogram.



Give yourself the chance of a lifetime.



## Avoiding the 10% IRA Penalty Tax

**P**HYSICIANS PREPARING TO DRAW ON their retirement fund before age 59½ view the 10% penalty tax for IRA-pension withdrawals as a severe drawback. The Tax Reform Act of 1986 provides an opportunity to avoid this penalty tax. The Internal Revenue code allows penalty-free withdrawals for distributions which are "... part of a series of substantially equal periodic payments (not less frequently than annually) made for the life (or life expectancy) of the employee or the joint lives (or joint life expectancy) of such employee and his designated beneficiary." Such distributions must continue to (a) age 59½ or (b) for 5 years, whichever occurs later.

Clarification by the IRS as to how "substantially equal periodic payments" are calculated is provided in IRS Notice 89-25. The notice provides considerable latitude in the calculation of distributions which avoid the 10% penalty.

### Three Methods

The IRS Notice assumes a 50-year-old IRA owner with a \$100,000 balance. The IRS suggests the following 3 methods of calculation.

**Divided by life expectancy:** The 50-year-old IRA owner would divide the \$100,000 balance by the 33.1 year life expectancy for the first year distribution of \$3,021. Next year, at age 51, he/she would divide the new IRA balance by the 32.2 year life expectancy.

**Amortization method:** Amortization of the IRA balance over the IRA owner's life expectancy at a "reasonable" rate of interest provides another distribution method. The IRS

has indicated that a rate as low as 5% is acceptable. A rate as high as the Adjusted Monthly Federal Rate (about 10%) should also be acceptable. At 8% our 50-year-old IRA owner would withdraw \$8,679 each year through age 59½. However, if 6% were used, the withdrawal would be \$7,020.

**Annuity method:** This calculation is made by dividing the IRA balance by an annuity factor. This factor is the present value of an annuity of \$1.00 per year using a "reasonable" interest rate. The IRA example uses the UP-1984 Mortality Table and an 8% interest rate to determine an annuity factor of 11.109. This produces a \$9,002 per year required withdrawal through age 59½ for our 50-year-old.

The IRS has permitted a 50-year-old IRA owner to use an insurance company's life and 10-year certain immediate annuity rates to calculate allowable withdrawals under IRS Section 72(t). Joint life expectancy may also be used. Assuming a 50-year-old spouse, the life expectancy method would produce a \$2,551 first year withdrawal.

These examples point out the considerable flexibility of IRA withdrawal provisions that avoid the 10% penalty. The range is from \$2,551 first year for a joint and survivor calculation to \$9,002 annuity payment each year through age 59½.

Reasons to consider pre-age 59½ distribution of IRA's and pension money include: retirement income, college funding for children, keeping IRA and pension assets below the 15% excise tax level, a gifting program, keeping the estate from growing into an even higher estate tax bracket and providing estate liquidity through the funding of an irrevocable trust.

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This month's column was provided by Steve Roe, Jim Pede and Robert Grieser of Century Pension Services in West Des Moines.

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## New Products and Programs

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**EFFECTIVE TREATMENT FOR CHRONIC HEPATITIS** — Intron A, Schering-Plough Corporation's brand of alpha interferon, has been approved for the treatment of chronic hepatitis Non-A, Non-B/C, an insidiously progressive and sometimes fatal liver disease. The approval of Intron A for this indication is important because, until now, there has been no effective treatment for chronic hepatitis Non-A, Non-B/C.

Each year an estimated 170,000 Americans become acutely infected with hepatitis Non-A, Non-B/C. Of those, 42% have a history of intravenous (IV) drug use and 6-10% have a history of blood transfusions. The remaining become infected through other modes of transmission, including hemodialysis, sexual contact with an infected partner, occupational exposure to infected blood or blood products and unidentifiable sources. Approximately 85,000 of those acutely infected develop chronic hepatitis Non-A, Non-B/C. About 17,000 individuals with chronic hepatitis Non-A, Non-B/C develop cirrhosis, which may progress to liver failure.

In the U.S. Intron A is also approved for the treatment of hairy cell leukemia, selected cases of condylomata acuminata (venereal warts) and AIDS-related Kaposi's sarcoma in selected patients 18 years or older. Intron A is currently approved in 11 other countries for the treatment of chronic hepatitis Non-A, Non-B/C. Further information may be obtained from Schering-Plough Corporation, Madison, New Jersey or from their local representative.

**GLUCOSE TABLETS PROVIDE RELIEF IN TREATING HYPOGLYCEMIA** — *A recent scientific study shows that Becton Dickinson Orange-Flavored Glucose Tablets provide faster relief than traditional home remedies in treating hypoglycemia. B-D Glucose Tablets also produce a continual rise in blood glucose levels after such remedies as candy, cola and orange juice had peaked. B-D Orange-Flavored Glucose Tablets deliver 5 grams of pure glu-*

*cose into the bloodstream in a quick and efficient way. The sugar found in home remedies is in a more complex state and has to break down into glucose to effectively treat hypoglycemia. The glucose tablets come 6 to a package, enough for 2-3 doses. Each tablet contains only 19 calories. The commonly-taken doses of home remedies contain more than 100 calories. Both the orange flavoring and consistency were selected after consumer testing. Available without a prescription at drug and pharmacy counters nationwide, B-D Glucose Tablets have an average retail price of \$1.19 per package.*

**NEW ENTERAL FORMULA REDUCES HOSPITAL STAY** — The results of a clinical study presented at a recent meeting of the American Society of Parenteral and Enteral Nutrition reveal that the enteral (tube feeding) formula IMPACT® resulted in a 22% reduction in mean length of hospitalization when compared to a standard enteral formula. These data demonstrate for the first time the impact of nutrition on clinical outcome — specifically infections, wound complications and mean length of hospital stay — in a group of critically ill patients.

IMPACT®, a ready-to-use, high-protein, specially enriched enteral formula, is intended specifically for patients with or at risk of suppressed immune function due to the hyper-metabolism of illness or injury — including cancer, multiple trauma, severe burn injury, sepsis and major general surgery. IMPACT®, manufactured and marketed by Sandoz Nutrition, Minneapolis, is the only enteral formula enriched beyond standard enteral products with added arginine, dietary nucleotides and fish oil — a rich source of the long chain omega-3 fatty acids EPA and DHA. IMPACT® also is enriched with vitamins and minerals in amounts that meet or exceed the U.S. RDA in 1500 mL and it provides 50% of vitamin A as beta carotene. Because of its low osmolality (375 mOsm/kg water), it is well tolerated for early postoperative feeding. IMPAC® is also

lactose- and gluten-free and low in cholesterol and sodium.

**MEDICINES IN TESTING FOR RARE DISEASES** — The Pharmaceutical Manufacturers Association (PMA) has cited a new survey entitled "Orphan Drugs in Development" which shows that 176 treatments for rare diseases are in human clinical trials or at the Food and Drug Administration (FDA) for review. This is a 32% increase over the 133 drugs in development identified in PMA's first orphan drugs survey of August 1989. The PMA survey also identified some of the important areas of orphan drug research. They are: AIDS and AIDS-related conditions with 24 drugs in development, cancers with 54, childhood diseases with 46, diseases of women with 12, genetic disorders with 31 and neuromuscular disorders with 11. For copies of the "Orphan Drugs in Development" survey report, please write to Editor, "Orphan Drugs in Development," Pharmaceutical Manufacturers Association, 1100 15th Street, NW, Washington, DC 20005.

**FDA APPROVES LEUKINE<sup>®</sup>** — Immunex Corporation has announced Food and Drug Administration clearance to market Leukine<sup>®</sup> (Sargramostim), a recombinant human granulocyte macrophage colony stimulating factor (rhu GM-CSF), which is a drug that promotes the growth of infection-fighting white blood cells. The drug will be used to speed myeloid (marrow) recovery in patients undergoing autologous bone marrow transplantation to treat certain cancers called non-Hodgkin's lymphoma, Hodgkin's disease and acute lymphoblastic leukemia. Immunex developed Leukine<sup>®</sup> in collaboration with Behringwerke, A.G. (Marburg, Germany) and Hoechst-Roussel Pharmaceuticals, Inc. (Somerville, New Jersey). In addition to providing the new therapy through its own medical sales representatives, Immunex will manufacture Sargramostim for distribution in the U.S. by Hoechst-Roussel. For more information contact Jason Rubin or Valoree Dowell, Immunex Corporation, 206/587-0430.



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## College of Medicine Highlights

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**LUNG CANCER WILL OVERTAKE BREAST CANCER** in Iowa this year as the number one cancer-killer of women, according to a 1991 report of the State Health Registry of Iowa at the UI College of Medicine. Among Iowa men, lung cancer has been the deadliest type for several decades. The report projects that twice as many men as women will die from it this year, but the gap is narrowing as lung cancer deaths level out among younger men but continue to rise among women. Eighty-five percent of lung cancer cases in Iowa are smoking-related, according to the report. UI faculty involved in preparing the report were **Drs. Charles Lynch and Paul Pomrehn, preventive medicine and environmental health.**

**APPLICATIONS TO THE UI COLLEGE OF MEDICINE** are up 42.5% this year; nationally applications are up 15%. At the UI, 2,262 students applied for 175 positions. Last year, 1,587 students applied. Most UI medical students come from Iowa, and 35% are from communities of less than 10,000. Half the state's physicians are UI graduates or have done post-graduate medical studies here, says **Dr. Paul Pomrehn, associate dean.** UI medical graduates go into family practice at twice the national average.

**GRANTS AND HONORS:** **Dr. Francois Abboud, internal medicine,** past president of the American Heart Association, was featured in *Silent Killer: Women and Heart Disease*, a nationally televised, AHA-sponsored documentary broadcast in March. Abboud also met with President George Bush in February for the signing of the proclamation designating February as American Heart Month. . . . **Dr. Kenneth Follett, neurosurgery,** received the 1991 Young Clinician Investigator Award by the Research Foundation of the American Association of Neurological Surgeons. With the \$40,000 award, Follett will study how the cerebral cortex processes information about visceral

pain. . . . **Dr. Samuel Fomon, pediatrics,** has been selected to receive the Nutricia Award at the Erasmus University in Rotterdam, the Netherlands. The prize is awarded once every 3 years to an outstanding scientist in human nutrition. . . . **Dr. James Hanson, pediatrics,** has been named a 1991 Kennedy Foundation Fellow in Public Policy. Hanson, a pediatric geneticist, will work for one year on the Senate Subcommittee on Disability Policy, chaired by Iowa Senator Tom Harkin. . . . **Dr. Stephen Hempel, internal medicine,** has been named recipient of the American Heart Association Genentech Clinician Scientist Award in Thrombolysis. With a 3-year, \$257,000 grant, Hempel will study the problem of blood clot formation in patients who have had a heart attack or a liver or kidney transplant. . . . The 1991 Houts-Arthritis Foundation Fellowship at the UI College of Medicine has been awarded to **Dr. Carlos Perandones** of Buenos Aires, Argentina. Perandones will spend at least 2 years at the UI conducting immunology research in the laboratories of **Drs. Robert Ashman and John Cowdery, both of internal medicine.** The fellowship is supported in part by a bequest from the late Dorothy Houts of Cedar Rapids.

**ALL HEALTHY CHILDREN ABOVE AGE 2** should eat in a heart-healthy way to lower blood cholesterol and help prevent coronary heart disease in adulthood, but wide-scale screening of children for high cholesterol levels is unnecessary, according to recommendations released in April by the National Cholesterol Education Program, which is sponsored by the National Heart, Lung, and Blood Institute. **Dr. Ronald Lauer, pediatrics,** was chairman of the Expert Panel that recommended only those children who have a family history of premature cardiovascular disease should be tested. The recommendations are supported by findings of the 20-year UI Muscatine Coronary Risk Factor Project. Those findings were reported in the December 19 issue of JAMA. Since 1970, Muscatine schoolchildren have been involved in the UI study that examines coronary risk factors, including high

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This material is furnished by the U. of I. Health News Service.



blood pressure, high cholesterol and other lipids, obesity, smoking and heredity.

**DR. WILLIAM SIVITZ, INTERNAL MEDICINE**, was elected president of the Iowa Affiliate of the American Diabetes Association for 1991-92 at the organization's annual meeting in May in Des Moines. Sivitz has served the affiliate board for the past 3 years. The Iowa Affiliate also awarded a Special Achievement Award to **Dr. Robert Bar, internal medicine**, who has served the American Diabetes Association as chairman of the research committee at both the state and national levels.

**A NEW \$6.5 MILLION P.E.T. IMAGING CENTER** is now open in the John Pappajohn Pavilion at UI Hospitals and Clinics. The scanner will be used by faculty and staff in the UI departments of neurology, psychiatry, radiology and internal medicine for clinical diagnosis and biomedical research. The P.E.T. scanner uses radioactive drugs to trace blood flow, metabolism or a certain chemical. With its 3-dimensional imaging, it is useful in studying functions of the brain, heart, lungs and other organs. **Dr. Richard Hichwa, radiology**, is director of the P.E.T. Imaging Center.

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## About Iowa Physicians

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**Dr. Enrico Melson** has joined the Sartori Memorial Hospital staff in Cedar Falls as the occupational health medical director. Dr. Melson received the M.D. degree at the University of California College of Medicine, Irvine, California. He previously served as a medical officer for Sac and Fox Tribal Health Services in Tama. **Dr. Jeff Hoffmann**, formerly of Pioneer Medical Center in Rock Rapids, has joined **Dr. Robert Merrick** and **Dr. Andrew Smith** at the Family Medicine Associates, Guttenberg. **Dr. David Gerbracht** has joined McFarland Clinic in Ames. Dr. Gerbracht received the M.D. degree from the University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania and completed an internal medicine residency at Mercy Hospital, Pittsburgh and Naval Regional Medical Center, Portsmouth, Virginia. The following physicians were recently elected to the Iowa Thoracic Society: **Dr. Michael Peterson**, president; **Dr. Miles Weinberger**, vice president; **Dr. Laverne Wintermeyer**, secretary-treasurer and **Dr. Robert Fick, Jr.**, chapter representative. **Dr. Richard Tyler**, Department of Otolaryngology-Head and Neck Surgery, U. of I. College of Medicine, has been awarded a senior research fellowship from the French Ministry of Research and Technology. Dr. Tyler will research electrical suppression of tinnitus in patients with cochlear implants. The Iowa Chapter of the American College of Physicians has given the 1991 Laureate Award to the following physicians for their significant career contributions to internal medicine: **Dr. Richard DeGowin**, professor of medicine and radiology at U. of I. College of Medicine and **Dr. George Spellman**, a Sioux City internist. **Dr. Anita Remerowski** has joined the Otumwa Clinic. Dr. Remerowski received the M.D. degree at Northwestern University Medical School, Chicago, Illinois and served her residency at the University of Nebraska Medical Center, Omaha, Nebraska. **Dr. Elizabeth Stoebe** has joined **Dr. Laine Dvorak** and **Dr. Sherry Bulten** at Park Physicians in Humboldt. Dr. Stoebe received the D.O. degree

from the University of Osteopathic Medicine and Health Sciences, Des Moines and completed a family practice residency at St. Joseph Mercy Hospital in Mason City. **Dr. Keith Hummel** has joined the staff of Hartley Community Memorial Hospital. Dr. Hummel received the M.D. degree from Spartan Health Sciences University, St. Lucia, British West Indies and completed a residency at Wyckoff Heights Hospital, Brooklyn, New York. **Dr. David Crozier** has relocated with the Community Family Practice Clinic to Eagle Grove. Dr. Crozier had been practicing in the Clarion office for the past 2 years. **Dr. Gregory Hoekstra** and **Dr. David Hanson**, faculty physicians at the Waterloo Family Practice Residency Program, recently received clinical appointments at the U. of I. College of Medicine. **Dr. Jon Fleming**, gastroenterologist at McFarland Clinic in Ames, has been selected for inclusion in Steven's *Who's Who in Health and Medical Services* 1990-91 edition. Dr. Fleming was chosen for his professional experience and noteworthy accomplishments in medicine. The following physicians were elected to the staff of St. Luke's Regional Medical Center, Sioux City: **Dr. Jack Bristow**, president; **Dr. David Howard**, president-elect and **Dr. Mark Wheeler**, secretary-treasurer. **Dr. Chuck Hoyt** has joined Creston Medical Center. Dr. Hoyt received the D.O. degree from the University of Osteopathic Medicine and Health Sciences, Des Moines and completed a family practice residency at Iowa Lutheran Hospital, Des Moines. **Dr. Larry Magruder** has joined Nishna Valley Family Physicians Clinic, Harlan. Dr. Magruder received the M.D. degree from the University of Texas Medical Branch, Galveston, Texas and completed his residency at Methodist Hospital, Dallas, Texas. Dr. Magruder previously practiced in Orange City. **Dr. Warren Bower**, chief of surgery at Grinnell Hospital, has assumed the office of president of the Iowa Academy of Surgery. Dr. Bower succeeds **Dr. Edward Mason**, professor of surgery

(Continued page 407)

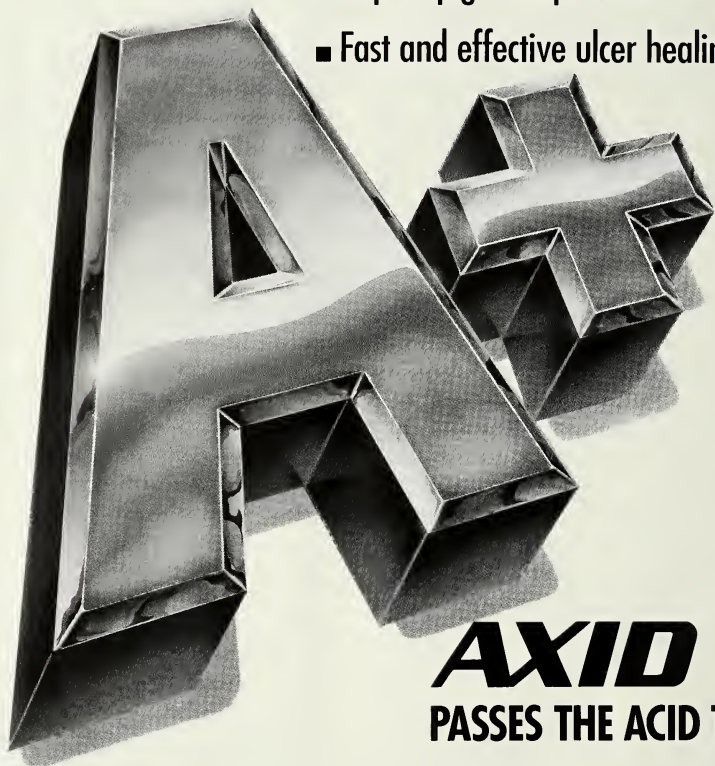


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**Contraindications:** Known hypersensitivity to the drug. Because cross sensitivity in the class of compounds has been observed, H<sub>2</sub>-receptor antagonists should not be administered to patients with a history of hypersensitivity to other H<sub>2</sub>-receptor antagonists.

**Precalculation:** General 1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy.

2. Dosage should be reduced in patients with moderate to severe renal insufficiency. 3. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

**Laboratory Tests:** False-positive tests for uridine/uracil with Multistix® may occur during therapy.

**Drug Interactions:** No interactions have been observed with theophylline, chloramphenicol, ibuprofen, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450 enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur in patients given very high doses (3,000 mg) of aspirin daily, increased serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

**Carcinogenesis, Mutagenesis, Impairment of Fertility:** A 2-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 60 times the human daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterocytoma-like (ECIL) cells in the gastric oxyntic mucosa. In a 2-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 530 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increases seen in any of the other dose groups. The rate of hepatocarcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (necrotic steatosis). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 300 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not consistent evidence of a carcinogenic potential for Axid. Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a 2-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 500 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

**Pregnancy—Reproductive Effects—Pregnancy Category C:** Oral reproductive studies in rats at doses up to 300 times the human dose and in Dutch rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect, but at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac anesthesia, coarctation of the aortic arch, and cutaneous edema. In 1 fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spinal bifida, hydrocephaly, and enlarged heart in 1 fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

**Nursing Mothers:** Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups nursed by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

**Pediatric Use—Safety and effectiveness in children have not been established. Use in Elderly Patients:** Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

**Adverse Reactions:** Clinical trials of varying duration included almost 5,000 patients; among the more common adverse events in domestic placebo-controlled trials or over 1,500 nizatidine patients and over 1,300 on placebo, swelling (1% vs 0.2%), urticaria (0.5% vs <0.01%), and constipation (0.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events were due to the drug.

**Hepatic:** Hepatobiliary injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>100 U/L) in SGPT or SGPT and, in a single instance, SGPT was >2,000 U/L. The incidence of elevated liver enzymes overall and elevations of up to 3 times the upper limit of normal, however, did not significantly differ from that in placebo patients. All abnormalities were reversible after discontinuation of Axid. Since marked elevation, hepatitis and jaundice have been reported. Rare cases of cholestatic or mixed hepatobiliary and cholestatic injury with jaundice have been reported with reversal of the abnormalities after discontinuation of Axid.

**Cardiovascular:** In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in 2 patients administered Axid and in 3 untreated subjects.

**CNS:** Rare cases of reversible mental confusion have been reported.

**Endocrine:** Clinical pharmacology studies and controlled clinical trials showed no evidence of antihypertensive activity due to nizatidine. Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

**Hematologic:** Folate thrombocytopenia was reported in a patient treated with nizatidine and another H<sub>2</sub>-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

**Immunologic:** Swelling and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

**Hypersensitivity:** As with other H<sub>2</sub>-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported. Rare episodes of hypersensitivity reactions (rash, bronchospasm, laryngeal edema, rash, and anaphylaxis) have been reported.

**Other:** Hypertension associated with gout or nephrolithiasis was reported. Erythema, fever, and nausea related to nizatidine have been reported.

**Overdose:** Overdoses of Axid have been reported rarely. If overdose occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis does not substantially increase clearance of nizatidine due to its large volume of distribution.

## References

1. Data on file, Lilly Research Laboratories.
2. *Scand J Gastroenterol* 1987;22(suppl 136):61-70.
3. *Scand J Gastroenterol* 1987;22(suppl 136):47-55.
4. *Am J Gastroenterol* 1989;84:769-774.
- NZ-2943-B-145347

Additional information available to the profession on request.

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at the U. of I. College of Medicine. **Dr. Michael Giudici**, Davenport, recently presented a paper, "Comparison of DDD Versus VVIR Pacing in Patients with a Chronotropic Response to Exercise," at the Ninth World Congress of Pacing and Electrophysiology in Washington, D.C. **Dr. Jean Beatty Spencer** has established Central Iowa Pediatric Ophthalmology in West Des Moines. Dr. Spencer received the M.D. degree from the U. of I. College of Medicine and completed a residency at U. of I. Hospitals and Clinics. Two physicians have recently joined the Park Clinic in Mason City: **Dr. Russell Smidt** and **Dr. Claudio DePeralta**. Dr. Smidt received the M.D. degree at the U. of I. College of Medicine and completed a pediatric residency at the University of Wisconsin, Madison, Wisconsin. Dr. DePeralta received the M.D. degree from the College of Medicine, University of the Philippines, Manila, Philippines and served a general surgery residency at Brooklyn Hospital, Brooklyn, New York. U. of I. College of Medicine researchers **Dr. Edmund Franken, Jr.** and **Dr. Charles Lu** recently received awards from international medical societies. Dr. Franken received honorary membership in the European Society of Pediatric Radiology at the 1991 International Pediatric Radiology meeting in Stockholm, Sweden. Dr. Lu received the Society of Gastrointestinal Radiologists' 1991-92 Research Award.

## Deaths

**Dr. Chauncey Heffernan**, 81, Sioux City, died March 8. Dr. Heffernan received the M.D. degree from Creighton University School of Medicine, Omaha, Nebraska and interned at St. Francis Hospital, Evanston, Illinois. Dr. Heffernan practiced for over 50 years in the Sioux City area, retiring in 1985. He was a life member of the Iowa Medical Society.

**Dr. Dale Onnen**, 66, Newton, died July 25. Dr. Onnen received the M.D. degree from the U. of I. College of Medicine and interned at Rockford Memorial Hospital, Rockford, Illinois. Dr. Onnen practiced in Newton for over 30 years, retiring in 1988.

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## It Even Happens in Iowa

**I**T'S IRREFUTABLE, WHEN PREGNANT WOMEN use alcohol and other drugs, so do their babies. But tragically, there are women who haven't gotten this message or are powerless against their addiction and need help to overcome it. Babies are born right here in Iowa with birth defects that could have been prevented.

In an effort to help prevent these health risks, the Iowa Department of Public Health's Division of Substance Abuse is launching a statewide effort to increase the public's awareness about the effects of alcohol and other drugs on unborn babies. The 2-pronged campaign is also designed to assist Iowa's physicians in identifying and caring for patients who use alcohol and other drugs during pregnancy and lactation.

The "When You Use, So Does Your Baby" campaign was initially designed by the Indiana State Board of Health. The Iowa Department of Public Health, in cooperation with the Iowa Substance Abuse Information Center, received permission to utilize the campaign and redesign it for Iowa.

Campaign materials include pamphlets for the general public, posters for office display, bookmarks, paperweight baby bottles and booklets for health care professionals. The booklet contains a pullout protocol card physicians can use to question pregnant patients about possible drug and alcohol use. The pamphlets for the public and health professionals were rewritten in consultation with Dr. Rizwan Shah of Des Moines. The Iowa Medical Society, the Iowa Osteopathic Medical Association and the Council on Chemically Exposed Infants have endorsed the project.

Materials have been sent to prevention and treatment centers, maternal and child health clinics, obstetrical clinics, obstetricians and numerous agencies throughout Iowa. Physicians

who wish to make the public information materials available in their offices may order the materials by calling 1/800-247-0614.

According to Janet Zwick, director of IDPH Division of Substance Abuse, physicians "have a special responsibility to be trained recognizing the symptoms of substance abusing women. They need to know where to refer them for further assessment and treatment."

This May, the IDPH and the March of Dimes cosponsored a healthy baby month coincide with the kickoff of the "When You Use" campaign. Governor Branstad proclaimed May as Healthy Baby Month. Local community based prevention programs sponsored activities. In one area, a contest was sponsored by a maternity store to guess how much candy was in a giant baby bottle. The "When You Use" pamphlets were distributed to all the pregnant women entering the contest. In another area, stores which sell baby items sponsored stroller races and father competing contests and distributed campaign materials at these events.

The IDPH plans to continue this campaign throughout the year. Janet Zwick stresses that physicians can play a key role. In some studies, patients have indicated that when the doctor talks with them about stopping smoking or gives other wellness advice, their weight carries a lot of weight.

"Perhaps the same applies to pregnant women who use drugs and alcohol," concludes Zwick.

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September 1991

Iowa Medicine



## President's Privilege

**Bruce Trimble, M.D.**



## Join the AMA

OCTOBER IS membership month. "Aha," you say, "I can stop reading it now. I am already a member or I wouldn't have this journal."

Right. You are a member of the IMS. The decision. Approximately 15% of our colleagues are not yet members. Consider asking to them.

As we participate individually in local community affairs, IMS membership allows to participate as a profession in the state community of various groups and interests.

But now back to you. Are you also a member of the AMA?

Most of us are members of one or more national specialty societies. We all should see, however, on the need for a unified voice on the numerous issues which affect medicine as a whole. Representatives of state and specialty societies formulate policy democratically at the AMA House of Delegates meetings, so that the AMA is uniquely credible as a spokesman for American medicine.

AMA has been a strong and effective advocate for Medicare reimbursement reform, has been recognized by the media as a voice of sanity on the ethical and policy aspects of the AIDS issue and is rapidly emerging as a leading voice for practical re-

form of the health care delivery system. The AMA is also actively involved in medical research and education issues, the world's leading publisher of medical journals and a leader in public health issues.

The activities of the AMA complement on a national level the state activities of the IMS. The staff and officers of the IMS use the resources of the AMA on an almost daily basis and coordinate Washington lobbying efforts closely on such issues as Medicare reimbursement and PRO activities.

The effectiveness of the AMA on our behalf will be enhanced when it can claim membership of a majority of the nation's physicians rather than the current 42%. A major membership drive is now underway. Dues are slightly more than \$1 per day. If you are not a member, please consider this a strong personal request to join. You can make no better investment for yourself, your patients and the future of American medicine.

A handwritten signature in dark ink, reading "R. B. Trimble".

R. Bruce Trimble, M.D.  
President

# What's in It for You?

## Five Opinions of Organized Medicine

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*Reasons for belonging to the Iowa Medical Society are as diverse as its members.*

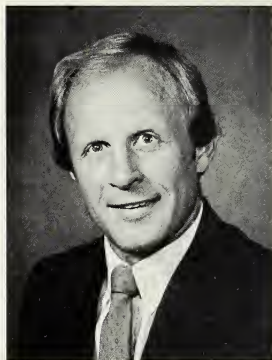
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### *IMS: A Chance to Make a Difference*

**A**S A NEWLY TRAINED, enthusiastic physician entering private practice a few years ago, it did not take long to realize that decisions made outside the confines of my office were often having a greater impact on the care of my patients than my own input. These decisions were often made quickly, without my knowledge and by individuals who had never spent a day in medical school or cared for a patient. My frustration was compounded by the lack of time and expertise necessary to affect these decisions.

Only through my membership in the Iowa Medical Society can I influence those decisions. Other IMS members and staff have served as a source of timely information and expertise on the many issues that have had a direct effect on my practice. The IMS has served as a forum for discussion with other physicians to better understand the issues. It has helped formulate an appropriate plan of action that has a reasonable chance to influence those responsible for

Kenton  
Moss, M.D.



rules and regulations in the state and national legislature.

Ideally, all physicians in Iowa should become involved in the legislative process. Tort reform, medical education, reimbursement, physician supply, access to medical care and other public health issues such as prenatal care and child immunizations are but a few of the issues that affect all of us. Membership in the IMS assures we will have the best possible chance of making a difference. With multiple influences on our profession, now more than ever our input is needed to protect our most vital interest — the health of the many fine people in this state. — *Kenton Moss, M.D., Algona family practitioner, IMS member for 12 years.*

## IMS: Much to Offer Young Physicians

**W**HEN I ENTERED PRIVATE PRACTICE in 1984, I obtained a position on the county medical society executive committee and became a delegate to the Iowa Medical Society annual meeting. For the past 5 years, I have been fortunate to serve as the Iowa delegate to the Young Physician Section of the AMA House of Delegates. Each level of participation has been exceedingly rewarding.

Physicians are struggling with a public image problem. Our Woodbury Medical Society has worked to improve this image through grass roots public relations projects that present physicians in a more human, down-to-earth light. The most recent project is a very popular weekly "Ask the Doctor" television spot featuring local physicians. Our county society helps improve the voice of physicians in the community and aids communications between physicians.

Through the Iowa Medical Society I have been able to make an impact on state government health care issues that affect my practice daily. Following an annual AMA meeting in 1987, I could see that Iowa needed a program that would allow physicians to voluntarily accept Medicare assignment on patients in financial need. Following a lot of work by the IMS and the Iowa Association of Area Agencies on Aging, Medicare Partners took shape. This program has been very helpful in staving off a legislative call for mandatory Medicare assignment.

Serving as the Iowa delegate to the Young Physicians Section continues to educate me on the latest national political health care issues. At the June meeting of the AMA House of Delegates, we heard about a discriminatory plan to limit Medicare reimbursement to physicians in their first 4 years of practice. It is critical for busy practicing physicians to be aware of these legislative proposals and find out what we can do to change them. The AMA is a way to make a difference.

One of the most common complaints from physicians about the AMA is that they

Kathryn  
Opheim, M.D.



do not agree with the position the AMA has taken on a certain issue. For me, this is the best reason to become involved in organized medicine — to speak your mind about the concerns you have and make a change for the better. — Kathryn Opheim, M.D., Sioux City family practitioner, IMS member for 10 years.

## IMS: Good Medicine Not Enough

**U**NITED WAY HAS PROVED its slogan: "We Can Do More Together." So has organized medicine. HCFA was inundated with your letters regarding the rule to implement the Clinical Laboratory Improvement Act and HCFA is now working on a new rule. HCFA's proposed rule on RBRVS brought such a storm of correspondence and personal contact that influential Congressmen are attacking HCFA for trying to thwart the intent of budget neutrality.

Most physicians went to medical school to help people. Organized medicine is simply the community of physicians working together for the best interests of the profession and patient care. Just as the horse-and-buggy doctors learned they could do more for patient care through professional association, contemporary physicians can do more

*(Continued next page)*

to promote the common good when they work together.

It must be a shock to enter practice and confront bewildering regulations and hassles from government, insurers and consumer organizations who seem to think they know more about patient care. However, the community of physicians known as your county medical society is there to provide guidance.

The county community of physicians works toward the best interest of patient care at the local level. Your county society sends representatives to the Iowa Medical Society to address problems and guide policy and IMS sends representatives to the American Medical Association — the national community of physicians.

Dr. James Todd, executive vice president of the AMA, has challenged physicians



James  
Koch

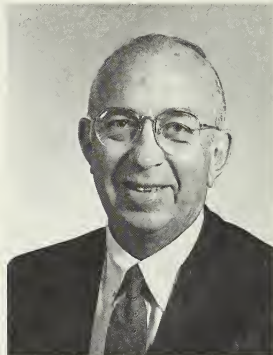
not to let your resolve or your enthusiasm get worn down from the propaganda and intrusions into the practice of medicine. He asked that we transform the potential power of American physicians into active power through our organizations.

Physicians are members of a minority group and the only strength is in unity. Practicing good medicine is not enough. Lend your voice and your talents to the community of physicians through participation in your organizations — the county society, IMS and the AMA. — *James Koch, Scott County Medical Society, executive vice president, Davenport.*

## IMS: Responding to Change

THE VALUE OF A MEDICAL SOCIETY can only be judged by how it adapts over time to serve the population that makes up the membership. Initially the Iowa Medical Soci-

Louis  
Rodgers, M.D.



ety membership was predominantly family physicians and third party involvement was virtually non-existent. The emphasis was on education through sharing of the latest medical information. Communication lines could be drawn simply for this homogenous group. With increasing numbers of specialists and rapid changes in governmental and other third party policies, communication links have become complex and indistinct.

The Iowa Medical Society has responded by developing methods of communication utilizing brief alert letters and reports. Appropriate committees have been created for both surveillance and action on the state and county levels. The Iowa Medical Society has become an information clearinghouse for all physicians on vital issues and a forum for specialty groups' concerns. Therefore, education remains a top priority.

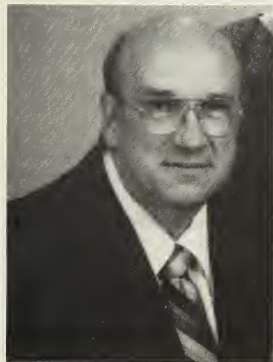
The permanent staff has done its job and has done it very well, yet the organization is still physician dominated. This healthy marriage of these groups working in concert produces efficient and effective management of our organization to serve its members.



My personal judgement is that our medical society has been responsive to our changing needs and continues to serve us as the founders no doubt intended. For the excellent job our leaders have done, they deserve our support, our membership and our thanks. — *Louis Rodgers, M.D., Des Moines surgeon, 30-year IMS member.*

## IMS: Serving as a Communications Link

**M**EMBERSHIP IN THE IOWA MEDICAL Society is as important to a properly equipped medical practice as a stethoscope. One of the most important functions of IMS is that of communication. Without IMS, Iowa's practicing physicians would be uninformed about many statewide problems and proposed legislation which affects the medi-



Robert  
Cozine, M.D.

cal community. Many times a timely response to these issues is crucial to our survival.

Without the insurance programs developed by IMS, many Iowa physicians would be unable to practice at all. With the increasingly difficult climate in medicine, we all need the networking of information which IMS makes possible. — *Robert Cozine, M.D., Emmetsburg family practitioner, IMS member for 21 years.*

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**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yocon® is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral alpha-adrenergic blockade. These include: anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.<sup>1,2</sup> Also dizziness, headache, skin flushing reported when used orally.<sup>1,3</sup>

**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.<sup>1,3,4</sup> 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.<sup>3</sup>

**How Supplied:** Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

#### References:

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27/2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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# Accomplishments of Women In Medicine Recognized

**D**R. CAROL ASCHENBRENER, chairperson of the Iowa Medical Society Board of Trustees, speaks eloquently on the subject of women in medicine:

"Women physicians are now represented in the ranks of all medical specialties. Competence, compassion and high ethical standards characterize most physicians of both sexes. However, since women in our society are encultured to place great value on interpersonal relations, women physicians may bring greater emphasis on relationships to their medical practice in areas such as listening, patient education and the psychosocial impact of illness on the patient. Through participation in organized medicine, women physicians can use their unique talents and interests to promote change in the health care system. Women have not sought positions of leadership in organized medicine in numbers commensurate with their representation in the profession. Organized medicine needs — and seeks — the strengths and perspective women can bring to it."

## *Women Succeeding and Excelling in Organized Medicine*

The good news is women are entering medicine and are succeeding and excelling. In addition to serving as executive associate dean of the University of Iowa College of Medicine, Dr. Aschenbrener was recently elected to the AMA's Council on Medical Education. The Iowa Medical Society has many women physicians serving on committees and in elected positions. In addition, a special committee on women in medicine was created a few years ago to consider is-

suues unique to women physicians and encourage participation by women in organized medicine. This committee is chaired by Sherry Bulten, M.D. of Humboldt.

To recognize the leadership of women physicians, the AMA designated this September as "Women in Medicine" month.

Male physicians can trace their roots in medicine to biblical times, but it wasn't until the mid-19th century that women were accepted for training as doctors. Around the time of the Civil War, women who sought medical training had to overcome enormous opposition from physicians, medical schools and society.

By 1880, a handful of American medical schools accepted women on a regular basis. Many of those schools limited the number of females to 4 or fewer per class. As late as 1921, 92% of U.S. hospitals refused to train women, no matter how well the women excelled in medical school.

Women rose to meet these challenges. Their leaders founded women's medical colleges and built dispensaries and hospitals to provide clinical training for women graduates. By the turn of the century, America had over 7,000 women physicians.

Today, nearly 17% of America's physicians are women. In 1969-70, only 3,390 women were enrolled in medical school. By 1989-90, this number soared to 23,513, or 39.2%.

According to Dr. Paul Pomhren, associate dean of student affairs and curriculum, University of Iowa College of Medicine, nearly 37% of new medical students at the UI this fall are women, and they are entering all specialties — including surgery.

## ***There's a Moral for Physicians in this Hapless Bricklayer's Tale***

*At a recent reunion of his medical school class in Iowa City, Dr. John Rhodes, Sr., Pocahontas, read this humorous letter to an insurance company which illustrates the hazards of "trying to do the job alone." The letter, reprinted below with closing comments from Dr. Rhodes, contains a message for physicians who try to do the job without the support of colleagues in organized medicine.*

DEAR SIR:

I am writing in response to your request for more information concerning Block #11 on the insurance form which asks for "Cause of Injuries" wherein I put 'Trying to do the job alone.' You said you needed more information so I trust the following will be sufficient.

I am a bricklayer by trade and on the date of injuries I was working alone laying brick around the top of a 4-story building when I realized I had about 500 pounds of brick left over. Rather than carry the bricks down by hand, I decided to put them into a barrel and lower them by a pulley which was fastened to the top of the building.

I secured the end of the rope at ground level, went up to the top of the building, loaded the bricks into the barrel and swung the barrel out with bricks in it. I then went down and untied the rope, holding it securely to insure the slow descent of the barrel.

As you will note on Block #6 of the insurance form, I weigh 145 pounds. Due to my shock at being jerked off the ground so swiftly, I lost my presence of mind and forgot to let go of the rope. Between the second and third floors I met the barrel coming down. This accounts for the bruises and lacerations on my upper body.

Regaining my presence of mind, I held tightly to the rope and proceeded rapidly up the side of the building, not stopping until my right hand was jammed in the pulley. This accounts for the broken thumb.

Despite the pain, I retained my presence of mind and held tightly to the rope. At approximately the same time, however, the barrel of bricks hit the ground and the bottom fell out of the barrel. Devoid of the weight of the bricks, the barrel now weighed about 50 pounds. I again refer you to Block #6 and my weight.

As you would guess, I began a rapid descent. In the vicinity of the second floor I met the barrel coming up. This explains the injuries to my legs and lower body. Slowed only slightly, I continued my descent, landing on the pile of bricks. Fortunately, my back was only sprained and the internal injuries were minimal. I am sorry to report, however, that at this point I finally lost my presence of mind and let go of the rope. As you can imagine, the empty barrel crashed down on me.

I trust this answers your concerns. Please know that I am finished 'trying to do the job alone.'

### **Dr. Rhodes Comments**

"Physicians also can't do the job alone. At last count, 72 plans had been promulgated to solve the health care crisis. We can only hope that, with our help, an improved system can be worked out.

"We must accept that doctors are part of the problem but we must also be part of the solution. We must never forget that we are the patient's advocate in any plan developed. We must rededicate our professionalism and renew our oath to be compassionate and caring physicians."





## THE WRONG LEGISLATION COULD BE A BITTER PILL TO SWALLOW

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scapegoats for increasing healthcare costs. **DIAGNOSIS:** A malignant growth on the health care system caused by toxic legislation. **IS THERE A DOCTOR IN**

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# After 400 Years, They Deserve a Break

**W**HERE CAN RETIRED PHYSICIANS go to enjoy a tasty meal, an interesting program, the good fellowship of colleagues and conversation that rarely even touches on the subject of medicine?

Physicians in Waterloo can go to the highly successful Retired Physicians Club sponsored by Allen Memorial Hospital. For 30 retired physicians, the club is a place to pass an agreeable hour and relax more than they ever have in a hospital.

The idea for the group came from Dr. James Collins of Waterloo. Dr. Collins got the idea when he was invited to several clubs for retirees to give talks on his hobby (see accompanying story). "I'd seen retirees' clubs for people in other professions and thought there should be one for physicians," he explained.

Enter Kathleen Wernimont, director of physician support services at Allen Memorial

*(Continued next page)*



**MEMBERS OF WATERLOO'S RETIRED PHYSICIANS CLUB** at the June meeting were: (back row, from left) James Collins, M.D.; Craig Ellyson, M.D.; John Glascock, M.D.; Robert Morrison, M.D.; Maurice Wicklund, M.D.; Andrew Smith, M.D.; John McCoy, M.D.; Robert Bailey, M.D. (Front row, from left) Karl Jauch, M.D.; C. J. Mikelson, M.D.; Robert Miller, M.D.; Fred Loomis, M.D.; Arthur Grandinetti, M.D.

and, in March of 1989, the Retired Physicians Club was born. Dr. Collins gave a hobby presentation at the organization's first meeting — directly after the first in a succession of scrumptious lunches.

"They serve this delicious food so they can polish us all off," joked one doctor at a recent meeting. "Then they won't have to have these meetings any more."

### ***Over 400 Years of Practice***

The members of the group are clearly enjoying their well-earned retirement. Incredibly, the 12 physicians at the club's June meeting represent over 400 years of medical practice.

"I miss the people in medicine and the excitement, but I love traveling," commented Dr. Andy Smith, a retired internist.

"When I first retired, I volunteered with cardiac rehab several mornings a week from 5-8 a.m.," said Dr. Bob Miller, smiling. "Now I sleep in."

"I can take as many vacations as I want. I have an easier life," added Dr. Bob Bailey, whose most recent 'vacation' was as a medical missionary to Jamaica.

### ***Staying Active and Involved***

Though these physicians are enjoying their retirement, it's clear they are still valuable members of society who are staying active and involved. Many have volunteer jobs that keep them in contact with the people they still care so much for — patients. And they have all discovered the pure joy of doing what they want to do for a change. One physician mentioned his delight at reading fiction rather than medical books; another spoke fondly of his 15,000 walnut trees and 15 grandchildren.

"I retired from practice so I could mow lawns," added Dr. Robert Morrison with a grin. (Dr. Morrison is also a cardiac rehab volunteer.)

### ***Talking Shop is Taboo***

Though this club is a group of physicians meeting in a hospital, the subject of medicine just doesn't come up. Program topics — many given by club members — have included gardening, investments, poetry, antique cars and the humorous "History of Golf in Waterloo." Obviously, the

club members are interested in each other as people — not as physicians. They said one of the best things about the club is getting to know other doctors in a nonprofessional setting.

"I worked with that doctor for years," said one physician indicating a club member across the room. "I don't think I ever saw him smile until he joined this club."

## ***How do they feel about medical practice? Retired physicians sound off***

**Members of the Retired Physicians Club in Waterloo offered the following comments about retirement and medical practice:**

"I retired because I was spending less time on patient care and more time on busy work."

"I would have practiced longer if it weren't for DRGs. I'm glad I'm not facing the problems young physicians face."

"I found myself ordering tests I thought the patient might want — not what I thought they needed."

"Doctors have a habit of dropping into the doctors' lounge to collect gossip and enjoy a little conversation. A retired physicians' club is a good substitute."

"I still find it impossible to throw away a medical journal without reading it."

"The Golden Age of Medicine has passed."

**D**R. JAMES COLLINS has more cars in his basement than you'd find on any car lot. However, the cars just happen to be cast iron and are quite a bit smaller than the regular variety.

A pathologist in Waterloo, Dr. Collins has an alter ego — Jim Collins, Cast Iron Conveyance Collector. Just plain 'Jim' spends lots of time making deals for the choicest collectibles. From the looks of his basement, he has been successful indeed. Proudly displayed in glass cases covering 2 basement walls are rows of antique miniature cast iron cars, roadsters, buses, tractors, trains and taxicabs Dr. Collins has spent 20 years collecting.

"I started out collecting antique trunks but I got 10 or 12 of them and realized I'd never have anywhere to put them," explains Dr. Collins. "Then I saw a cast iron car at a sale and went wild."

### *None Made Since WWII*

Cast iron cars served as toys for youngsters; some were product promotions. Small ones sold for about 25 cents and larger ones were \$1 or \$1.50. Cast iron cars are so desirable, says Dr. Collins, because manufacturers stopped making them at the beginning of World War II. It's impossible today to get the fine sand used to produce the cars.

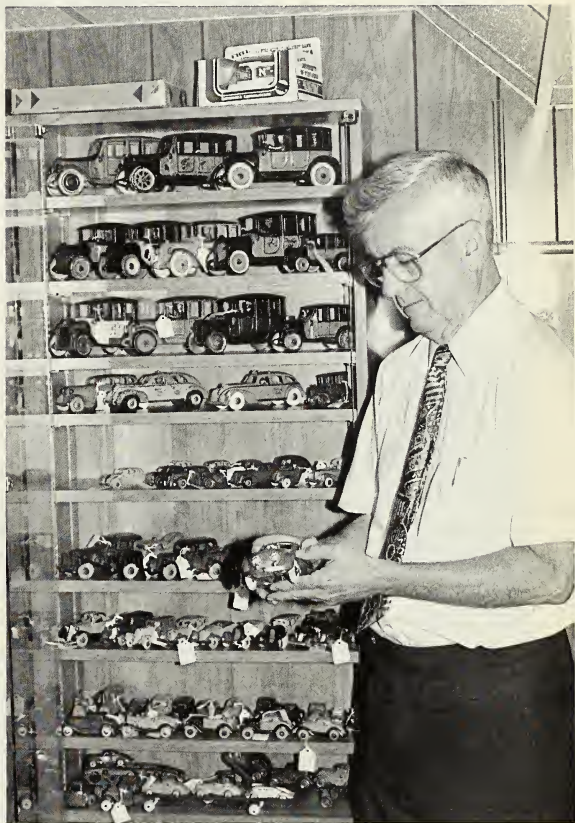
"It would just be too costly," Dr. Collins comments. "They do make reproductions now and some try to pass them off as real antiques."

Of course, no one passes off any imposters onto Jim Collins, who has developed plenty of antique car savvy. He subscribes to *Antique Toy World* magazine, attends antique toy auctions and mails bids into auctions being held across the country. At one sale, he paid \$600 for a 1930s vintage Buick and then learned one had sold in New York for \$3,750.

His prize toy car? A 1932 Packard which has 19 moving parts and sold for about \$10 in the 1930s.

"Today, there are only 10 in captivity and it's worth considerably more," concludes Dr. Collins.

## One Difference Between Men and Boys? The Price of Their Toys



Dr. James Collins of Waterloo with his antique cast iron car collection.



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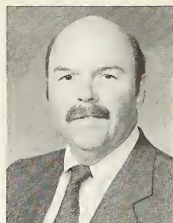


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## Questions and Answers

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**William Jacott, M.D.**



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# Innovative Thinking 'Critical' To Increasing AMA Membership

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*The AMA's goal is 50% membership by the year 2000, says the author, an AMA trustee from Minnesota.*

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**Why is the AMA embarking on a new membership campaign? How long will the campaign last?**

Though the AMA represents more physicians than any other organization, membership in the AMA has been static for 20 years. At a time when physicians desperately need to stand together, it appears they are not. That's why we must attain the goal of 50% AMA membership by the year 2000. Attaining this market share won't allow for business as usual. It's time for new ideas. The membership campaign includes a member-get-a-member program, enhanced communications to patients about AMA achievements, new AMA benefits for various segments of membership and other strategies.

We hope this campaign will show results within 2 years, but changing long-held perceptions of some non-members will be a lengthy process.

**Why is it important for more physicians to become AMA members?**

Imagine what could be accomplished by a force in organized medicine that is 600,000 members strong! The number of AMA members has a direct impact on the AMA's ability to influence the future of medicine. When the AMA represents a majority of physicians, it will be even more effective in meeting challenges to medicine that cannot be met in a laboratory. Challenges such as access to health care for all. Attacks on biomedical research. The intrusion of government and third party payors into examining rooms and surgical suites. In addition, surveys show that 80% of Americans believe their personal physician should be an AMA member.

**What can Iowa physicians do to promote AMA membership to their colleagues?**

With a membership rate of 75%, Iowa physicians are among the nation's leaders in support of a strong AMA. These Iowa physicians could obviously be excellent salespeople for the AMA, and it has been proven that the most effective recruitment tactic is when a respected colleague asks a non-member to join.

To be an effective AMA recruiter, you must be informed about AMA accomplishments. Time and time again as I have talked to non-members about the many things the AMA does

*(Continued next page)*

on their behalf, I encounter surprise. Find out why a physician hasn't joined and point out a positive example to counteract a negative impression. Non-member physicians who disagree with the AMA on a particular issue need to be informed of the many other ways the AMA represents the practice of medicine.

**One of the campaign's major goals is to do a better job of telling physicians what the AMA does for them. How will this be achieved?**

One new feature is an entire page of *AM News* called "On Your Behalf" which gives a weekly summary of AMA activities for its members. The AMA will be producing a video series highlighting AMA achievements. A news briefing called "In Your Interest" will be given to state and specialty societies for use in newsletters and journals.

**The campaign features advertisements in national magazines. How will this improve the public's image of physicians?**

We're taking the story of America's physicians to the general public in a dramatic advertising campaign in *Time*, *Newsweek* and *U.S. News and World Report*. The ads will present profiles of member physicians upholding the highest standards of our profession (see accompanying story). We have coined the phrase "champions of professionalism" because these AMA members live up to this creed every day.

Research shows the public holds their individual physicians in very high regard but their opinion of physicians in general is not as high. By using profiles of AMA members in the ads, we hope to build upon the positive public image of individual physicians and extend it to the entire profession.

## AMA Advertising Campaign Profiles Unsung Heroes

**F**OUR PHYSICIANS are speaking from their hearts directly to 73 million Americans — about their work, their patients' needs, their dedication to their profession and their appreciation for the American Medical Association.

Look for their images in the pages of *Time*, *Newsweek* and *U.S. News and World Report* through a special communications program sponsored by the AMA.

The campaign presents ad profiles of AMA member physicians who are "champions of professionalism upholding the highest standards of our profession, helping those most in need," says James Todd, M.D., AMA executive vice president.

The 4 unsung medical heroes were selected on the basis of their efforts with one of the public health issues on the AMA's agenda: interpersonal violence, AIDS research and treatment, care of the underserved, substance abuse and biomedical research. The physicians are:

- Dr. Kenneth Haller, a pediatrician in East St. Louis, America's fourth poorest county.

- Dr. Aliza Lifshitz, an internist, one of the first Hispanic physicians to become involved in the AIDS problem in Los Angeles.

- Dr. Kevin Fullin, a cardiologist who helps support a battered women's shelter in Kenosha, Wisconsin.

- Dr. Paul Volberding, devoted to research to extend the lives and ease the suffering of AIDS victims in San Francisco.

The campaign puts the spotlight on the AMA's Principles of Medical Ethics through the work of these 4 doctors.

Dr. Lifshitz' work epitomizes her belief in the AMA's principles: "There are 2 standards by which I run my practice every day — to inform the public about health care and to participate directly in community improvement. My husband says I'm an idealist. That it takes more than one person to change the world. I say, 'I guess I'll be one busy person'."

Dr. Fullin says he is participating in the campaign because "the only group that can speak on behalf of physicians is the AMA. Only a national effort can succeed in telling the story of all physicians, what we work at every day, what we hope to accomplish."

# Latex—A New Cause of Anaphylaxis

GEORGE CAUDILL, M.D.  
VELJKO ZIVKOVICH, M.D.  
Des Moines, Iowa

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***Increased use of latex gloves and condoms as protection against HIV could increase incidence of anaphylactic reaction, say these authors. Contact with latex during an examination, catheterization, delivery or surgery can also cause an anaphylaxis in some patients.***

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A 40-YEAR-OLD BLACK FEMALE sustained an anaphylactic reaction within minutes after a latex balloon-tipped rectal catheter was inserted prior to a barium enema. The resulting cardiopulmonary arrest responded to multiple doses of epinephrine and other resuscitation measures. There was no prior history of allergy.

## Discussion

Contact dermatitis from latex, a T-cell mediated reaction, was reported by Downing in

1933.<sup>1</sup> Netter wrote about IgE mediated urticaria in 1979.<sup>2</sup> Anaphylaxis to latex was first reported at the Nordic Congress of Allergy by Turjanmaa in 1984.<sup>3, 4</sup> Since then, most of the articles have been in foreign and a few American specialty journals; therefore, physicians have not become aware of this relatively new cause of an old life-threatening hazard.<sup>3-23</sup>

Anaphylactic reactions have occurred when latex products come in contact with the mucosa of the oral cavity, rectum and genitourinary tract during examination, catheterization and surgery of all types.<sup>3-25</sup> Reactions have also been reported from latex dental products, condoms, toy balloons, rubber bands and even a squash ball.<sup>5, 12, 17, 19, 22</sup>

Medical personnel and women seem to be at highest risk. Finland's Turjanmaa found 2.9% of general hospital employees, 5.6% of surgeons and 7.4% of operating room nurses were allergic to latex. Dental personnel are now wearing gloves routinely and will also have a higher risk of sensitization. The frequency of sensitization in women seems to be greater because many wear latex gloves in their household activities.<sup>13, 21</sup> With latex gloves and condoms being used as major protective devices against HIV there will undoubtedly be an increase in latex sensitizations.

Studies have shown a variation from 35% to 80% of patients who are sensitive to latex have a history of atopy.<sup>6, 12, 17, 21</sup> However, patients with a history of contact urticaria or other IgE mediated diseases from latex exposures (such as rhinitis, conjunctivitis, asthma urti-

Dr. Caudill is a clinical assistant professor, and Dr. Zivkovich is a clinical associate professor at the U. of I. Department of Pediatrics. They practice in Des Moines, and specialize in pediatric allergy and immunology.

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION AWARD FOR OCTOBER 1991

caria or angioedema) should be considered at high risk.<sup>12, 18</sup> The IgE level (RAST), may or may not be helpful in determining a patient at risk or as a diagnostic tool.<sup>4, 11, 12, 17, 18, 21, 22</sup> There may be a low-circulating antibody level but a high level of tissue-bound specific IgE.<sup>18</sup> When the RAST is indecisive, a prick skin test may be of more value.<sup>12, 19, 22, 23</sup> There is, however, some risk in doing the skin test, especially by untrained personnel.<sup>13, 19</sup>

To avoid a fatal outcome, anaphylaxis must be promptly diagnosed and adequately treated with epinephrine. The dose of epinephrine and the frequency of administration should be judged by the clinical response of the patient.

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*'There has been no explanation as to why rubber, after being used for almost a century, has only recently caused IgE mediated allergy.'*

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Patients with severe reactions may require multiple injections.<sup>26</sup> Other supportive measures may be required. Steroids and/or antihistamines alone should not be relied upon to treat an anaphylactic reaction. In past years, we have had 2 patients with severe anaphylactic reactions; one to penicillin and one to a bee sting. They required treatment with epinephrine every 10 to 20 minutes for 2 1/2 and 3 hours, respectively.

Patients who have severe reactions to latex should be given an EpiPen® or a Bee Sting Kit.<sup>19</sup> Adequate instruction on their proper use is necessary. More important is the need to caution patients to avoid future exposures to latex products. They must also inform their dentist and paramedical personnel with whom they may come in contact of their sensitivity and its seriousness. For individuals who must wear gloves, vinyl or neopren products are available.<sup>22</sup> A medical alert bracelet should be worn by the patient.<sup>13</sup>

Completely protecting latex sensitive patients from contact with latex products during surgery would be difficult.<sup>23</sup> When surgery is required, it may be necessary to premedicate the patient with corticosteroids, H1 and H2 antihistamines according to protocol described

for patients who have sensitivity to radio contrast medium.<sup>23</sup>

There has been no explanation as to why rubber, after being used for almost a century, has only recently caused IgE mediated allergy.<sup>12</sup> Speculation is that technical factors in manufacturing are the cause; e.g. chemicals used in production or curing of the latex.<sup>12, 18, 23, 24</sup> It should be noted the sterilizing agent, ethylene oxide, and powder used on the gloves have been reported to cause anaphylaxis.<sup>18, 21</sup>

## FDA Request

The October, 1990 *FDA Drug Bulletin* requests information about incidences related to the allergic reactions to latex medical products.<sup>27</sup> Latex-tipped rectal catheters have been removed from the market by one manufacturer.<sup>28</sup>

## References

References noted in this article are available either from the authors or the editors of *IOWA MEDICINE*.

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# The Cold War Against RSV

KATE BALOUGH, M.D.  
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Iowa City, Iowa

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***Respiratory Syncytial Virus (RSV) can cause substantial morbidity and mortality in high risk patients. The authors discuss prevention and treatment of this virus.***

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RESPIRATORY SYNCYTIAL VIRUS (RSV) is the most clinically significant virus which causes respiratory tract disease in infants and children. Annually, it accounts for 8-15% of all upper respiratory tract infections. Timing of these epidemics vary, but commonly run from December through April. Nearly all children have had one RSV infection by age 3. Because immunity is short-lived, reinfections are common.

Although RSV infection is usually confined to the upper respiratory tract, it can cause more fulminant, even fatal disease such as bronchiolitis, pneumonia and/or apnea. In general, the younger the patient the greater the risk of severe disease. This virus is responsible for about 23% of all pediatric hospitalizations for respiratory tract disease. Most adults manifest similar symptoms only if they have predisposing conditions such as chronic obstructive pulmonary disease or asthma.

The authors are associated with the pediatric allergy and pulmonary division of University of Iowa Hospitals and Clinics.

## *Prevention*

During an RSV epidemic, nosocomial infection can occur in up to 45% of contact patients, many of whom have primary diagnoses that place them at high risk of severe pulmonary manifestations from this infection (Table 1). Consequently, prevention of cross-infection in the hospital is of paramount importance.

A 1981 study by Hall et al provided the requisite insight for developing effective infection control protocols.<sup>1</sup> Under carefully controlled conditions, healthy, RSV-negative volunteers were randomly assigned to one of 3 exposure groups. "Cuddlers" provided total care to an RSV infected baby for several hours without a mask or gloves. This put them at risk of infection from small particle aerosolization or large droplets as well as autoinoculation from the latter or fomites.

(Continued next page)

TABLE 1  
HIGH RISK FACTORS FOR SEVERE LOWER RESPIRATORY TRACT DISEASE FROM RSV

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**Youth** — especially with history of premature birth and/or age < 6 weeks

**Congenital heart disease** — in hospitalized patients, mortality rates with vs. without pulmonary hypertension are 37% and 73%, respectively

**Chronic lung disease** — including bronchopulmonary dysplasia, cystic fibrosis, recurrent aspiration and idiopathic pulmonary hypertension

**Immunocompromise** — whether primary, secondary, or iatrogenic. Up to 80% of inpatients require intensive care treatment; their mortality rates run 15-40%

**Other chronic diseases** — such as nonorganic failure to thrive and multiple congenital anomalies

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"Touchers" were instructed to touch several surfaces in the room of an infected infant and then touch their own nasal mucous membranes or conjunctiva. (RSV can remain viable on surfaces for up to 6 hours.)

"Sitters" wore gowns and gloves while seated at least 6 feet away from an infected infant for 3 hours. They did not touch anything in the room, ensuring infection could only occur by small particle aerosol.

The study results in Table 2 demonstrate the prevalence of autoinoculation by large droplets and fomites since direct inoculation of the former is not likely to account for all of the infections in that group. While this data suggest meticulous attention to hand washing before and after patient contact could eliminate most infection of staff and patients, prior studies of staff hand-washing patterns (compliance rates ranged from 10% to 76%) suggest such a simplistic approach would fail. As shown in Table 3, the best control of infection

was obtained when barriers to autoinoculation were in place.

The fact that eye-nose goggles decreased both staff and patient infections to a similar degree underscores the role of staff as carriers contributing to the spread of RSV disease. Leclair's study showed that gloving also improved RSV control. Most likely, gloves served as a reminder to staff that their hands were covered with potentially infectious secretions and increased handwashing. To summarize, infection control has been best with a combination of patient isolation, prevention of staff autoinoculation and education.<sup>2</sup>

Further reductions may be possible with highly specific and sensitive rapid antigen assays that facilitate cohorting. One recent study nearly eradicated nosocomial RSV infection by using rapid RSV testing on *all* patients at the time of admission to allow more accurate cohorting.<sup>3</sup> Based on these studies, we recommend the following steps for controlling RSV infection:

### Hand Washing

Hand washing should be performed before and after contact with any patient and after touching one's own nose or mouth. Since compliance is difficult even for the highly conscientious, friendly reminders are an important adjunct.

### Equipment

Equipment, including stethoscopes, should not go between patients without disinfection. Respiratory equipment should be sterilized, if possible, before being shared by patients or units.

TABLE 2  
RSV STUDY, EXPOSURE GROUP INOCULATION RESULTS

Exposure Group	Cuddlers	Touchers	Sitters
No. Exposed	7	10	14
No. Infected	5*	4*	0
Afebrile URI	3	3	0
Febrile URI	2	0	0
Asymptomatic	0	1	0
Incubation	4 days	5.5 days	

\*Significantly different from sitters ( $p < 0.05$ ).

Adapted and used with permission, *The Journal of Pediatrics* 99:101, 1981.

TABLE 3  
RATES OF NOSOCOMIAL RSV INFECTION IN INFANTS AND STAFF WITH DIFFERENT INFECTION CONTROL MEASURES

Techniques	Infants		Staff	
	No.	No. (%) with Nosocomial RSV Infection	No.	No. (%) with RSV Infection
Hand washing, cohorting, gowns	66	23 (35)	53	18 (34)
Hand washing, cohorting, isolation of infected infants, IFA* testing	27	11 (41)	26	11 (42)
Hand washing, cohorting, isolation of infected infants, IFA testing, plus gowns, paper-face masks	25	8 (32)	30	10 (33)
Hand washing, cohorting, isolation of infected infants, IFA testing, plus eye-nose goggles	17	1 (6)	40	2 (5)

\*IFA indicates indirect fluorescent antibody.

Adapted and used with permission, *JAMA* 256:2706-2708, 1986, Copyright 1986, American Medical Association.

## **Staff**

Staff with signs of a respiratory illness should not care for high-risk patients who are RSV negative. As much as possible, patient care staff should be cohorted, particularly on units with more than 3 cases of RSV. Staff from these units should not be assigned to work other units during the same shift. Physical therapists, phlebotomists, respiratory therapists and other support staff should make every effort to attend to patients without RSV before seeing RSV infected patients.

## **Patients Positive for RSV**

Patients positive for RSV should be put on secretion/excretion precautions with gloves and gowns until nasal secretions are negative for RSV on 2 occasions. For infected infants and toddlers whose nasal secretions are routinely disseminated across their body surface area and environment, all patient contact should be regarded as a contact with infectious secretions. Consequently, secretion/excretion precautions mandate gowns and gloves be used at all times for these patients. Positive patients may share a room only if the roommate is also RSV positive. Ideally, rooms with RSV infected patients should be sequestered from other patients. This also facilitates assignments of staff and their activities to cohorts.

## **Other Patients**

During RSV season, any patient with signs or symptoms compatible with an upper or lower respiratory tract illness is presumed to be RSV positive until proven otherwise (i.e., 2 negative tests). Therefore, they should be kept in private rooms with appropriate isolation until their RSV status is known. Patients with documented exposure to RSV should have 2 negative RSV tests at least 5 days after initial exposure before being removed from isolation. Elective admissions for patients with high risk factors should be postponed until after the RSV season.

## **Visitors**

Visitors including family should be alerted to the seriousness of RSV infection and advised to be alert for signs of RSV in other family members. They may require instruction on use of face masks, hand washing, facial tissue disposal and other protection measures.

In the community, measures for limiting the transmission of RSV are often unacceptably difficult, although avoidance of exposure to ill persons, group activities and cigarette smoke would decrease the risk of acquiring RSV as would meticulous attention to hand washing by all caretakers. These measures are clearly justifiable for children at high risk of severe RSV infection.

## **Treatment**

Timely symptomatic treatment of patients with lower respiratory tract involvement can also reduce morbidity and mortality associated with RSV infection. Despite considerable controversy in the literature regarding the efficacy of bronchodilators in bronchiolitis, beta adrennergics remain the first line of drug therapy for these patients. Recent studies utilizing infant pulmonary function tests have clearly demonstrated that the majority of patients with bronchiolitis have a significant degree of bronchodilator responsiveness to their obstructive lung disease.<sup>4,5</sup> The mildest cases may do well with oral albuterol but many will require inhaled medication for symptom control.

Glucocorticoid use for bronchiolitis has also been controversial. In Tal's study of wheezing-associated respiratory illness in hospitalized infants, a feasible explanation for the controversy emerged.<sup>6</sup> Infants in this prospective trial were randomly assigned to one of 4 groups: placebo alone, dexamethasone alone, bronchodilator alone (albuterol) or dexamethasone plus albuterol. Only the albuterol plus dexamethasone group improved at a rate that differed significantly from the placebo treated group. This makes sense intuitively.

Asthmatics hospitalized for acute exacerbations frequently have little or no apparent improvement following single, infrequent doses of bronchodilator. Rather than suggesting there is no underlying bronchoconstriction, this indicates there is also substantial inflammation. The addition of corticosteroids to the treatment plan greatly speeds recovery. Similarly, we would not expect rapid improvement with anti-inflammatories alone since the bronchoconstriction would persist unopposed. We add glucocorticoids as our second line treatment for bronchiolitis inadequately controlled by nebulized albuterols using the same dosing guidelines as in asthmatics.

*(Continued next page)*

Ribavirin (Virazole®), a broad spectrum antiviral, is the only drug licensed for specific therapy against RSV bronchiolitis and pneumonia. Clinical studies of its efficacy in lower respiratory tract disease in children have consistently demonstrated modest improvements in morbidity. Parameters which have shown more rapid improvement following aerosolized ribavirin treatments include oxygen saturation, symptom/treatment scores, cough/crackles, need for mechanical ventilation and shedding of virus in secretions.<sup>7-10</sup> Despite these promising results, no study has yet demonstrated a significant difference in length of hospitalization, mortality rate or long-term outcome including incidence of recurrent wheezing.

### Safe but Expensive

Clinical experience has shown ribavirin to be a safe drug. There have been isolated reports of rash, reversible skin irritation and mild bronchospasm following aerosolized ribavirin treatments. Despite concerns of frequent or severe adverse reactions in health care workers exposed passively to the aerosol, the overall adverse drug reaction rate was only 0.07% among health care providers, and all reactions were minor.<sup>11</sup>

Since ribavirin is expensive and other efficacious, less expensive treatments are available, ribavirin is not routinely recommended for patients hospitalized with RSV disease. The American Academy of Pediatrics 1986 guidelines for ribavirin use are helpful in determining who should be considered for this aggressive intervention. Ideally, a patient should have confirmed RSV disease to warrant ribavirin use. However, a patient whose presentation during an epidemic strongly suggests RSV infection could be empirically started on therapy pending the result of cultures.

The following features indicate high enough risk of RSV to consider ribavirin treatment: congenital heart disease, especially with pulmonary hypertension; chronic lung disease including bronchopulmonary dysplasia; prematurity or age < 6 weeks; immunocompromise including AIDS and transplant patients;  $\text{PaO}_2 < 65$  mm Hg or increasing  $\text{PaCO}_2$ ; multiple congenital anomalies; neurologic disease and metabolic disease.

Although antibiotics are not generally indicated in patients infected with RSV, there

are times when they are appropriate. Infants who are febrile may warrant several days of broad spectrum coverage pending bacterial culture results. Particularly ill and/or immunocompromised patients should receive comprehensive evaluation for other pathogens even if RSV studies are positive since coinfections with multiple treatable organisms have been documented in the literature. *Streptococcus pneumoniae* is the most frequently reported copathogen, but others such as *hemophilus influenzae* and *pneumocystis* have also been reported.

Factors which may suggest a likelihood of coinfection include thrombocytopenia, hepatitis, persistent or recurring temperature elevation above 39° longer than 5 days, disseminated intravascular coagulation and progression of respiratory failure despite appropriate therapy.

### References

References noted in this article are available from the authors or the editors of *IOWA MEDICINE*.



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## The Editor Comments

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Marion E. Alberts, M.D.



# Belonging

**T**O HOW MANY ORGANIZATIONS DO you belong? As a youngster it may have been the Scouts or a high school club. Later we gravitate toward fraternal organizations, sororities, church groups and service organizations. The medical profession has specialty groups as well as county, state and national medical societies. All these serve to amalgamate our interests. Commenting on society, Thomas Jefferson averred "It is rendering mutual service to men of virtue and understanding to make them acquainted with one another."

The key words in Jefferson's statement are "... rendering mutual service." Our hospital staffs and our county, state and national organizations exist to render service as well as offer opportunities for members to be acquainted with one another. Our medical societies have one basic tenet for membership — being a licensed physician. Unless one has the right and privilege to practice medicine taken away there is no possibility of being "black-balled." We stand together for the opportunity to provide the best medical care for society.

This *IOWA MEDICINE* presents positive arguments for the benefits of being a member of the Iowa Medical Society. Herbert Spencer (1820-1903), an English philosophical writer, said society exists "for the benefit of its members; not the members for the benefit of society." One hundred years after Jefferson he harkened to a philosophy similar to Jefferson's.

Certainly, the IMS serves its members; many of the members in turn serve the society. More members should have input and for that their membership benefits would be

enhanced. What does the IMS do for the physicians of Iowa? How shall we approach the benefits — the tangible ones or the intangible? Most obvious to many members are the tangible ones. The various programs of insurance coverage are very popular. Educational programs of varied types are available through IMS sponsorship. Leadership seminars as well as retirement planning, office management, computer skills and risk management are but a few of recent programs for member physicians.

Intangible benefits are numerous. Above all, through the diligence of committee members and society officers much is done in the realm of medicine's relationships to society as a whole. We are concerned that our patients receive the best medical care consistent with a fair and considerate concern for the manner of provision. As conscientious providers of medical care, we cannot be pawns of innane governmental regulations that are inconsistent with our rights and have a detrimental effect upon our patients. Our medical society works conscientiously for the benefit of the profession as well as for our patients. Membership fosters that endeavor. Non-members gain the same benefits, but their benefits are ill-gained — no input, but much benefit.

Let us pull together. Mutual gains brought about by mutual effort is the name of the game. Membership in our medical society is the way to go. In his essay on Society and Solitude, Emerson noted "Happy will be that house in which the relations are formed from character." So should our house be happy, for it is the character of the members that will make it so. — M.E.A.

Richard M. Caplan, M.D.



# When $n = 1$

**I**N THIS ERA WHEN MULTI-CENTER double-blind trials have become the mode (in the sense of fashion, not statistics), the individual gets lost. Worse than that, perhaps, is not just being lost but being rejected: "everyone knows that a single anecdote doesn't prove anything." That's a sloppy argument. It's indeed hazardous, logically or statistically, to generalize from a single instance to describe a population or a law of nature. But the anecdote (verified and distinguished from rumor) can overturn a generalization, even one that seems well founded or even revered. For example:

- Finding one black swan overturns the assertion that "all swans are white," no matter how many white swans were found in generating the assertion.

- "With odds of 1 in 40 million, there's no way to win the lottery jackpot." Bettors know that's not so and they are right, although perhaps foolish to bet.

These thoughts percolate when I hear someone argue that "CME makes no difference since there aren't data to prove it does." I believe there are such data published, but here I want to focus on the anecdote. Many people have told me instances, each of which nullifies such a generality. If instead, a critic makes the argument that CME should be more efficient or less costly, a logical debate might ensue.

In addition to its power to disprove a generality, a single instance can provide new information. Two anecdotes appeared recently in the *NEJM*, telling amazing circum-

stances which allowed the authors in each case to make an important biological observation. One told of an 88-year-old man who unfailingly (because of an uncorrectable compulsion) had eaten 25 eggs daily for at least 15 years. Yet the man's serum cholesterol level ranged between 150 and 200 mg%. Because his absorption of the cholesterol was greatly decreased and his production of bile acids greatly increased, he maintained a normal serum cholesterol.

The other report told of an astounding "suicide attempt" in which a 41-year-old woman took 2 to 3 ml of blood from a former male friend dying of AIDS. She inoculated herself and then, presumably having second thoughts, came to an emergency room in a state of panic. Prophylactic doses of zidovudine were given for 5 weeks. Three months after the inoculation, lymphadenopathy and asthenia began to develop and she became seropositive for HIV types 1 and 2. One may thus draw conclusions about the timing of clinical illness in what was likely a massive inoculum and also about the prophylactic inadequacy of AZT in such a setting. Further, one is prompted to speculate on a hierarchy among modes of suicide, with priority for speed and efficacy.

There are other benefits in granting the importance of an  $n$  of 1: it focuses attention on the primacy of an individual patient; it reminds us to pay close attention to the narratives of our patients' circumstances and not just laboratory reports; and it allows the practicing physician, through close observation, to make important contributions to biomedical knowledge. Besides, it makes the practice of medicine much more interesting.

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Dr. Caplan is Coordinator, Program in Medical Humanities at the University of Iowa College of Medicine.

## Physicians Are 'Captains of the Ship'

Dear Editor:

The June issue of *IOWA MEDICINE* contained a letter written by Dr. John Sunderbruch, M.D., Davenport.

Without discussing it with any of my colleagues, or any other contact or comment, I want to say that it was one of the best written and pertinent articles I have seen or read in many years.

I heartily endorse Dr. Sunderbruch's letter and compliment him on this timely presentation. Obviously, much more could be said and the subject could be enlarged upon, but the total idea is so well presented that I feel it needs no further comment.

Again, my compliments to Dr. Sunderbruch on his timely and courageous letter to the editor. — *Charles W. Beckman, M.D., Kalamona, Iowa.*

## "Reformed Gallbladder"

Dear Editor:

In my letter to the editor in the August 1991 issue I did not mention that Dr. Howard L. Beye, former Chief of Surgery at the U. of I. Hospitals, had originally reported on cystic duct remnants and presented the term "reformed gallbladder." This was acknowledged by Dr. Peterson in his paper and I wish to acknowledge the article, "Conditions Necessitating Surgery Following Cholecystectomy" by Howard L. Beye, F.A.C.S., Iowa City, St. Louis, Missouri, December 7, 1934. — *Ralph Dörner, M.D., Des Moines.*

## The Role of the Medical Monitor

More and more physicians are becoming involved in clinical drug trials. As questions posed by the Food and Drug Administration become increasingly complex, clinical trials grow larger and more complicated. Commu-

nity physicians, especially those with busy practices, are being asked to provide centers for multicenter studies.

For many of these physicians, this will be their first encounter with medical monitors — physicians employed by pharmaceutical companies to coordinate and supervise clinical trials.

Who are these physician-employees? Increasingly, they are not semi-retired doctors opting out of too-physically-demanding practices, but recently qualified Board-certified or Board-eligible specialists and subspecialists — some straight from residency and fellowship programs.

The medical monitor in a new job usually starts by taking over an ongoing study. The new industry physician learns how to visit study sites and examine case report forms for completeness and accuracy. The new monitor ensures no protocol violations have occurred and no serious adverse reactions have been overlooked.

As the medical monitor gains experience, some of these activities may be delegated to a clinical research associate, freeing the monitor to concentrate on other tasks. These include writing new protocols, starting new trials and evaluating, reporting and presenting results from previous studies.

The medical monitor follows the relevant medical literature, attends major scientific meetings of his or her specialty and consults with leading authorities on the disease or diseases targeted by the new medication. This may entail traveling around the country or around the world. If the drug is a very new one, as development proceeds, there probably will be a time when the medical monitor knows more about that drug than anyone else on earth.

Before a new trial begins the medical monitor and community-physician investigator usually work together at pre-trial meetings to acquaint the monitor with the site and iron out final protocol details. The monitor usually visits the site at intervals during the study and again at the end of the study for close-out. In addition, there will probably be some telephone conversations to discuss adverse experiences and decide what to do with patients who don't fit the protocol's inclusion/exclusion criteria. — *Provided by the Pharmaceutical Manufacturers Association.*

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# Quality of Ambulatory Care — DEMPAQ Project

**T**HE IFMC IS PARTICIPATING in a 3-year project designed to develop tools to assess the quality of care delivered to Medicare patients in physicians' offices. The project — labeled DEMPAQ — is funded by the Health Care Financing Administration.

The Delmarva Foundation for Medical Care, Maryland's PRO, is the primary contractor collaborating with the IFMC and the Alabama Quality Assurance Foundation.

The DEMPAQ project involves a medical record review and a claims profiling instrument. The record review includes a Record Documentation Assessment (RDA) that analyzes items considered important for continuity of patient care which should be included in medical records. The Clinical Performance Assessment (CPA) component focuses on functions the physician typically performs in the course of patient treatment such as ordering tests, prescribing drugs and responding to patient complaints. Confidential results from the RDA and the CPA will be sent to participating physicians.

## *Physicians Will Review Profiles*

Medicare Part B claims data from the common working file will be used to generate generic and focused profiles. The confidential claims profiling data will be sent to participating physicians. They will be asked to review and critique the profiles for relevance and usefulness relative to quality of care.

A vital aspect of DEMPAQ is the input of physicians in the design and implementation of the project. The profile format and the record review criteria will be submitted to liaison

members of the medical community for critique/comment before implementing the profiling or record review. Individual physicians and physician groups will be asked to evaluate the educational value and the usefulness of the data. The review criteria will be continuously revised throughout the project based on information supplied by physicians.

DEMPAQ will also undertake extensive evaluation of the validity, reliability and cost of each review technique. The project will also compare data from the medical record to that contained in a HCFA-1500 form to assess whether claims data is a reliable quality indicator.

The record review will begin in the fall of 1991 in Maryland. Results from the Maryland pilot will be used to revise the record review tools prior to initiating review in Iowa and Alabama in the winter of 1991-92.

## *Random Iowa Physician Sample*

Beginning in December 1991, letters will be mailed to a random sample of Iowa physicians inviting them to participate in DEMPAQ. Participating physicians will be asked to provide DEMPAQ with approximately 25 randomly selected Medicare patient records for review. All information submitted will be strictly confidential and will be reviewed by project staff only. Reimbursement for photocopying records will be offered.

Claims profiles will be developed and released in mid-1991, first in Maryland and later in Iowa and Alabama. The project's final report will be available in the fall of 1993.

For more information about DEMPAQ, call Nancy Paine, IFMC director of specialty review services, at 515/223-2940.

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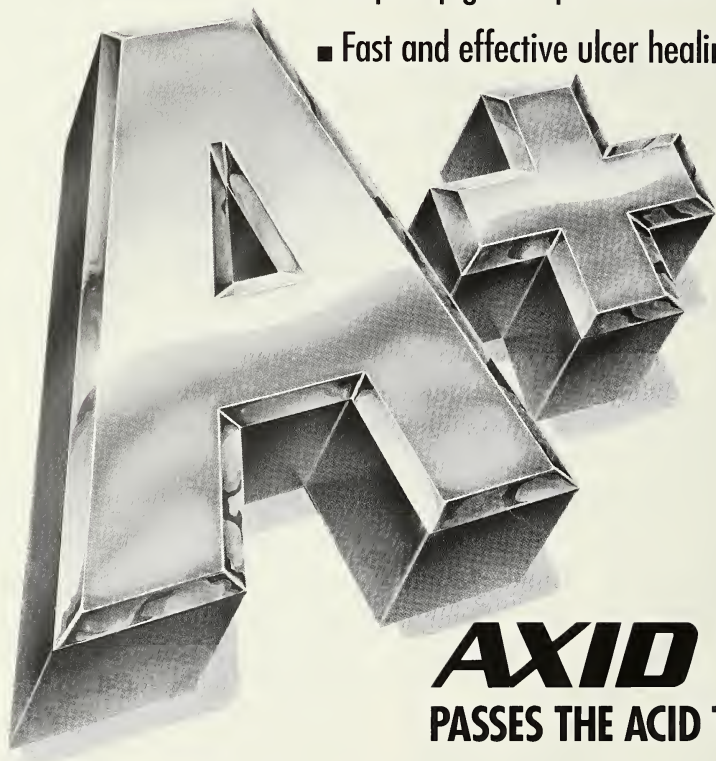
This column was provided by the Iowa Foundation for Medical Care, Iowa's peer review organization.

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**Precautions:** **General:**—Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy.  
2. Dosage should be reduced in patients with moderate to severe renal insufficiency.  
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**Carcinogenesis, Mutagenesis, Impairment of Fertility:**—A 2-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterocryptin-like (EC) cells in the gastric cryptic mucosa. In a 2-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose rats as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day) about 300 times the human dose showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrease as compared with concurrent controls and evidence of mild liver injury (transaminase elevation). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 350 mg/kg/day, about 50 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid. Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutagen tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

**Fertility:**—In a 2-generation, prenatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

**Pregnancy—Teratologic Effects—Pregnancy Category C:**—Oral reproductive studies in rats at doses up to 300 times the human dose and in Dutch Belled rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect, but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in 1 fetus, and at 50 mg/kg, it produced ventricular anomaly, distended stomach, coarcted aorta, hydrocephaly, and enlarged heart in 1 fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can alter reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

**Nursing Mothers:**—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups nursed by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

**Pediatric Use—Safety and effectiveness in children have not been established.**

**Use in Elderly Patients:**—Heavy cases in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

**Adverse Reactions:** Clinical trials of varying durations involved almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials were over 1,000 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and constipation (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events were due to the drug.

**Hepatic—Hepatotoxicity:** (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>50 IU/L) in SGOT or SGPT, and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes overall and elevations of up to 5 times the upper limit of normal, however, did not significantly differ from that in placebo patients. All abnormalities were reversible after discontinuation of Axid. Since marked elevation, hepatitis and jaundice have been reported. Rare cases of cholestatic or mixed hepatocellular and cholestatic injury with jaundice have been reported with several of the abnormalities after discontinuation of Axid.

**Cardiovascular—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in 2 individuals administered Axid at 3 and 3 unrelated subjects.**

**CNS—Rare cases of irreversible mental confusion have been reported.**

**Endocrine—Clinical pharmacology studies and controlled clinical trials showed no evidence of antihypertensive activity due to nizatidine. Impaired and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.**

**Hematologic—Fetal thrombocytopenia** was reported in a patient treated with nizatidine and another H<sub>2</sub>-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

**Hypersensitivity—Sweating and urticaria were reported significantly more frequently in nizatidine than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.**

**Hypersensitivity—As with other H<sub>2</sub>-receptor antagonists, rare cases of angioedema following nizatidine administration have been reported. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.**

**Other—Hypertension** unassociated with gout or nephropathy was reported. Eosinophilia, hives, and anaphylaxis related to nizatidine have been reported.

**Overdose:** Overdoses of Axid have been reported rarely. If overdose occurs, clinical monitoring and supportive therapy. Renal dialysis does not substantially increase clearance of nizatidine due to its large volume of distribution.

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## References

1. Data on file, Lilly Research Laboratories.
2. *Scand J Gastroenterol* 1987;22(suppl 136):61-70.
3. *Scand J Gastroenterol* 1987;22(suppl 136):47-55.
4. *Am J Gastroenterol* 1989;84:729-774.

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Please follow the reference list style as published in current issues of *IOWA MEDICINE*. If the reference list contains more than 10 references, it will not be published with the paper but retained at *IOWA MEDICINE* and copied upon request.

Tables should be numbered and typed on a separate sheet. They should supplement, not duplicate, the text. Considering the production cost of tables and photos, only a limited number can be accepted with each article.

Photos should be black and white glossy prints. Some color photos are acceptable if the contrast is good. Authors are responsible for obtaining patients' permission to use photos.

Line drawings are acceptable if they are dark and can be reduced to fit in one column.

*IOWA MEDICINE* accepts only material which has not been submitted or published elsewhere. When a paper is accepted for publication, the editors reserve the right to publish it when appropriate or when space is available. Papers submitted by IMS physician members are given first priority.

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# Lead Intoxication in Children

**E**XCESSIVE ABSORPTION OF LEAD in children can affect growth, hearing and neurobehavioral development without overt symptoms.

Until recently, guidelines for blood lead levels were 25 $\mu$ g/dl. But adverse effects can occur at much lower blood lead levels than has been previously recognized. The Centers for Disease Control (CDC) has lowered the blood lead threshold to 10 $\mu$ g/dl.

The screening test of choice has been measurement of erythrocyte protoporphyrin (EP), commonly assayed as zinc protoporphyrin (ZPP), in blood obtained by finger stick capillary sampling.

This test is inexpensive and easily performed, but it is not sensitive at the lower levels of blood lead which now define lead intoxication.

## *Identifying Patients with Iron Deficiency Anemia*

An erythrocyte protoporphyrin level is still useful, however, in identifying patients whose blood lead levels are increasing and in screening patients for iron deficiency anemia. Identifying patients with iron deficiency anemia is important in relation to lead intoxication because such children absorb lead more efficiently from their gastrointestinal tract and have increased susceptibility to many of the toxic effects of lead.

Screening for lower levels of lead intoxication should be done using direct measurement of blood lead. A blood lead level reflects lead's dynamic equilibrium between absorption, excretion and deposition in soft- and hard-tissue compartments. Preferably, blood lead

levels should be measured by venous samples. However, finger stick capillary specimens will be more feasible at many screening sites.

A protocol for capillary blood collection for lead analysis is available through the Iowa Department of Public Health. Before a child with elevated lead levels undergoes chelation, a confirmatory venous blood lead measurement should be repeated (even if the child was initially screened using a venous blood sample).

## *Repeat Testing in CDC Blood Lead Program*

Screening tests are not diagnostic. Every child with a positive screening test (blood lead 10 $\mu$ g/dl) should be re-evaluated with a repeat blood lead determination on a venous (non-capillary) blood sample in a laboratory that participates in the CDC blood lead proficiency-testing program. Small changes in blood lead levels should not necessarily be interpreted as indicative of actual changes in the child's lead absorption or excretion. Repeated testing will improve the validity of severity classification.

## *Lead Intoxication Risk Groups*

- Children, 9 months to 6 years of age, who live in or are frequent visitors in older, deteriorated housing structures;
- Children, 9 months to 6 years of age, who are siblings, housemates, visitors, and playmates of children with known lead toxicity;
- Children of any age living in older housing where renovation is occurring;
- Children, 9 months to 6 years of age, who live near lead smelters and processing plants or whose parents or other household members participate in lead-related occupation or hobby.

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This article was written for the IDPH by Douglas Weismann, M.D., U. of I. Hospitals and Clinics, Iowa City.



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## About Iowa Physicians

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**Dr. L. Dean Caraway**, Amana, has retired after more than 35 years of medical practice. Dr. Caraway received the M.D. degree from the U. of I. College of Medicine and practiced in Monticello for 15 years prior to locating in Amana. **Dr. Brian Lindo** has joined Family Practice Associates in Cedar Rapids. Dr. Lindo received the M.D. degree from the University of Illinois, Chicago Health Science Center, Peoria, Illinois branch and completed his residency at Mercy Family Practice, Cedar Rapids. **Dr. Callie Taffe** and **Dr. William Jones** have joined Medical Associates of Cedar Rapids. Dr. Taffe received the M.D. degree from St. Louis University School of Medicine, St. Louis, Missouri and completed a residency at Albany Medical Center, Albany, New York. Dr. Jones received the M.D. degree from the University of South Dakota School of Medicine, Vermillion, South Dakota and completed a residency there also. **Dr. Donald Paynter** has joined Internists, P.C. in Cedar Rapids. Dr. Paynter received the M.D. degree at the U. of I. College of Medicine and served his residency at Wright-Patterson Air Force Base in Ohio. **Dr. Steven Johnson** recently joined the Wolfe Clinic, West Des Moines. Dr. Johnson previously practiced with the Physicians' Eye Clinic, West Des Moines. **Dr. Brett Olson** has joined **Dr. Donald Rodawig** at Spirit Lake Medical Center. Dr. Olson received the M.D. degree from the U. of I. College of Medicine and served a family practice residency at North Memorial Medical Center, Minneapolis, Minnesota. The following physicians have joined the staff at Allen Memorial Hospital, Waterloo: **Dr. Stephen Chaffee**, **Dr. Annie Kontos** and **Dr. Mary O'Connell**. Dr. Chaffee received the D.O. degree at the University of Osteopathic Medicine and Surgery, Des Moines and completed a residency with Black Hawk Area Family Practice Residency Program in Waterloo. He has joined Main Street Family Practice clinics located in Denver, Readlyn and Tripoli. Dr. Kontos received the D.O. degree at the University of Osteopathic Medicine and Surgery, Des

Moines and served her residency at the Mayo Clinic, Rochester, Minnesota. She is in family practice in Waterloo. Dr. O'Connell received the M.D. degree from Southern Illinois School of Medicine, Springfield, Illinois and completed a residency with Black Hawk Area Family Practice Residency Program in Waterloo. She is in practice in Waterloo. **Dr. Louis Greco**, Boone, has retired after 36 years of surgical practice. Dr. Greco received the M.D. degree from University of Illinois at Chicago Health Sciences Center, Chicago, Illinois and served a residency at Veterans Administration Hospital, Dwight, Illinois. **Dr. Whealen Koontz** has joined Internists, P.C., Cedar Rapids. Dr. Koontz has been in practice in Cedar Rapids for 25 years. **Dr. Randall Messerly** has joined **Dr. Stephen Sundberg** in providing surgical services through Webster City Medical Services, P.C. and Boone Medical Specialties, P.C. Dr. Messerly received the D.O. degree from the University of Osteopathic Medicine and Surgery, Des Moines and completed his residency at Metropolitan Medical Center and St. Louis University Hospital, St. Louis, Missouri. **Dr. Gerald Brooks**, Sioux City, has been board certified in the sub-specialty of psychiatry with added qualifications in geriatric psychiatry. This is the first year psychiatry has had a certification process within the sub-specialty of geriatrics. **Dr. David Eberle** has joined the Park Clinic in Mason City. Dr. Eberle received the M.D. degree from Indiana University School of Medicine, Indianapolis, Indiana and completed a residency at Akron General Medical Center, Akron, Ohio. Dr. Eberle previously practiced in Minot, North Dakota. Sioux City physicians **Dr. John Walck** and **Dr. Donald Schultz** are leaving Iowa to practice medicine elsewhere. Dr. Walck is relocating to Tucson, Arizona where he will specialize in addictions treatment. Dr. Schultz has accepted a position as vice president for private practice for the Henry Ford Health System in Detroit, Michigan. **Dr. David Hansen**, Cedar Falls, has retired after 33 years of medical practice, 32 of

those years in Cedar Falls. Dr. Hansen received the M.D. degree from Washington University School of Medicine, St. Louis, Missouri and completed a residency at Jewish Hospital, also in St. Louis. He practiced for one year in Florissant, Missouri before locating in Cedar Falls. **Dr. James Hubbard**, Dubuque, was recently elected to fellowship in the American Academy of Pediatrics. **Dr. Thomas Babcock** and **Dr. Thomas Fagg** have opened the Jefferson Clinic. Both physicians received the D.O. degree from the University of Osteopathic Medicine and Health Sciences, Des Moines and completed family practice residencies at Broadlawns Hospital, Des Moines. **Dr. Brian Melhaus** has joined the Fairfield Clinic. Dr. Melhaus received the M.D. degree at the U. of I. College of Medicine and served his residency at Memorial Hospital, South Bend, Indiana. **Dr. Virgilio Corpuz** has joined **Drs. Preeti Bhatia** and **L. Gregorio Lauz** at Medical Associates in Clinton. Dr. Corpuz received the M.D. degree from the Faculty of Medicine and Surgery, University of Santo Tomas, Manila, Philippines and completed a pe-

diatric residency at Cooper Hospital, Camden, New Jersey. **Dr. Laurel Schiller** has replaced **Dr. Donald Trefz**, who has retired from his Charles City practice. Dr. Schiller received the M.D. degree from the U. of I. College of Medicine and completed a surgical internship at Bronx Hospital, New York. She has been practicing with Dr. Trefz for 2 years. Although Dr. Trefz has retired from his daily practice he continues to see nursing home patients and remains as medical director of the nursing home. He has practiced medicine for 37 years, the last 31 years in Charles City.

### LETTERS TO THE EDITOR

If you have a comment regarding something you've read in *IOWA MEDICINE* or an observation on conditions affecting the practice of medicine in Iowa, don't keep it to yourself. Share your thoughts in a letter to the editor. We'd like to hear from you.



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## The Auxiliary and Public Health

**T**HERE IS A VERY IMPORTANT organization which works in concert with the Iowa Medical Society and yet has its own identity. This organization can always be counted on to shore up the endeavors of physicians in organized medicine, yet pursues separate activities which enhance projects in which the Society is involved. Enthusiastic support of Iowa physicians and the health and welfare of Iowans are the main items on their agenda.

The organization is the IMS Auxiliary.

"Most of the Auxiliary's time and effort goes toward the public health and making people aware of their health choices," says Martha Holzworth, Auxiliary president.

Following are a few Auxiliary activities which demonstrate this group's concern for the public good.

- **Vector Quest 1:** Threats to the health of our adolescents are a major concern of IMS Auxiliary members. This project, done in conjunction with the Department of Public Health, is an educational search for solutions to life and death adolescent health issues. VQ1 will be used to promote health education curriculum in the schools this fall.

- **HELPLINE:** The Auxiliary is directly involved in assisting impaired physicians having a problem with substance abuse or mental illness. The IMS Auxiliary established and coordinates HELPLINE under the auspices of the IMS Committee on Assistance Program for Troubled Physicians. Auxiliaries who have experienced these problems in their own families can be reached on HELPLINE through the use of pseudonyms.

- **ICCSHE:** The Auxiliary is represented on the Iowa Coalition for Comprehensive School Health Education. The Coalition co-sponsors an annual conference which is a resource for educators regarding a number of

issues affecting the well being and development of Iowa's youth.

- **Mini-Internships:** Without Auxiliary members (and, incidentally, the cooperation of local physicians!) this project would not exist. Through this program, legislators spend a day with a physician, doing what the physician would do during any normal day. Last year, 49 Iowa legislators participated. The Mini-Internships promote a spirit of cooperation between lawmakers and the medical community.

- **Combating Substance Abuse:** The Auxiliary sponsored production of a poster, signed by Iowa college athletes, promoting a "say no to drugs" message. The posters were provided to every Iowa high school and junior high. Currently, the Auxiliary is promoting a red ribbon campaign for Drug Free Week.

- **AMA-ERF:** The IMS Auxiliary has single-handedly raised over \$10,000 for the American Medical Association's Education/Research Fund. Over \$2,000,000 has been raised through the national auxiliary. Money raised in Iowa goes to the University of Iowa College of Medicine for scholarships and other projects.

In the past, the IMS Auxiliary has been instrumental in the Meals on Wheels program and in organizing health fairs which have become annual events.

"You might think that you're just one person, that you can't really make a difference," Mrs. Holzworth concludes. "But when you're with an organization like the IMS Auxiliary, you can."

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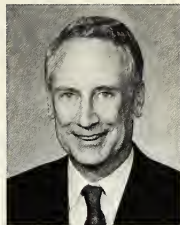
October 1991

Iowa Medicine

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## President's Privilege

R. Bruce Trimble, M.D.



# Health Care Reform

**C**HANGES IN HEALTH CARE DELIVERY over the past 20 years have generally been bad for physicians. We have seen decreased reimbursement from Medicare and Medicaid, interference with medical decision-making, burgeoning administrative costs and hassles, a rise in uncompensated care as the numbers of uninsured rise and a general decline in autonomy and prestige.

Given this history, it is hard not to view all further change as suspect and to resist being drawn into discussion of possible reform of the system. There is, however, among many groups a growing consensus that major change is needed. On reflection, most of us probably believe it would be wiser to attempt to shape this change rather than just react to it. Efforts to bring about comprehensive, planned reform may result in an unpredictable mix of gains and losses for physicians. But the alternative — non-planned further evolution of the present system — will certainly result in worsening of all the present problems.

Since there is no perfect plan on the horizon, the process of reform will be political, involving negotiation and compromise among various interests. As examples of the complexities of possible trade-offs, consider that, in the face of governmental budget woes, the access problem can realistically only be solved by mandating insurance purchase by employers and individuals. This may require governmental subsidies for small employers and low-income individuals. It is unlikely that industry, government and the public will agree to this scenario without strong efforts to cap total expenditures. For physicians to accept a cap, the public will have to accept a limit on benefits:

an aging population cannot have for a fixed cost all the care rapidly expanding knowledge and technology can provide. But if limits are placed on benefits, physicians must be protected by tort reform against liability for the consequences of these limitations.

Might we be the losers in such negotiations? Of course. But given the stakes, who would want to say we did not try because we feared to fail? Actually, physicians take great strength into the process. We alone understand health care. We have the moral authority of speaking for the patients' interests, as opposed to payor concerns. Physicians potentially have much to gain by careful reform: expanded access to health care, recapture of the process of quality/appropriateness definition and review, decreased micromanagement and administrative costs and tort reform. We should also expect that any change should preserve or increase patient and physician satisfaction and basically maintain average physician income.

The discussion has begun. The AMA is discussing Health Access America — as a thoughtful starting point, not as a non-negotiable demand — with many groups. The IMS Executive Council in September heard an outline of the preliminary proposal of the Iowa Leadership Consortium and will carefully monitor development of that proposal.

Stay tuned.

A stylized, handwritten signature of R. Bruce Trimble, M.D. in dark ink.

R. Bruce Trimble, M.D.  
President







# Honored in Photo Display



THE MEMORY OF Walter Bierring, M.D., Iowa's "grand old man of medicine," has been given renewed life at the University of Iowa College of Medicine. A new and permanent photo display near the student lounge area in the Med Labs Building honors the Iowa physician who studied under Louis Pasteur and was AMA president from 1933-35.

Walter Bierring was born in Davenport in 1868 and spent his boyhood there. An injury to his right foot in a railroad accident brought him in to contact with doctors at the UI College of Medicine and he entered medical school there in 1889. This was the beginning of a long and illustrious medical career.

Following graduation, Dr. Bierring studied at the Pasteur Institute in Paris before returning to Iowa City to teach. He was elected president of the Iowa State Medical Society in 1908, held a number of national offices and was acquainted with some of the world's most respected physicians. (The photo display includes a picture of Dr. Bierring and the distinguished English physician William Osler.) Dr. Bierring died in 1961 at the age of 92, the most honored and well known of Iowa's physicians.

Dr. Bierring is a man worth remembering. Consider these prophetic words from a 1957 speech given by Dr. Bierring at Walter Reed Army Hospital:

"With a due appreciation of the great heritage of service and opportunity that we now enjoy, we pray for wisdom broad and deep enough to guide aright the destiny of medicine in the days ahead."

*Note: The Walter Bierring display was developed by Richard Caplan, M.D. of the UI Office of Continuing Medical Education and Carol Bowman, a graduate student in medical humanities. Displays of Bierring materials can also be found at the Iowa Medical Society and the Iowa State Historical Museum in Des Moines.*

# New Nuclear Imaging Studies Available for Clinical Use

JAMES PONTO, M.S., R.Ph.  
Iowa City, Iowa

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***Several new diagnostic drugs for use in nuclear medicine have become commercially available in the past year. Recently revised Nuclear Regulatory Commission regulations pertaining to nuclear imaging studies are being adopted by the Iowa Department of Public Health. The author reviews clinical uses of the new drugs, and changes in regulations that allow broader use of existing radiopharmaceuticals.***

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**D**URING 1990, the U.S. Food and Drug Administration (FDA) approved 23 new prescription drugs, 4 of which are diagnostic drugs for use in nuclear medicine. These new radiopharmaceuticals continue to bolster nuclear medicine's strength, i.e., functional imaging. In contrast to traditional Tc-99m radiopharmaceuticals, however, these new agents require more involved preparation and quality control testing. Furthermore, depending on patient volume, ac-

quisition cost may be well in excess of \$100 per patient dose.

## ***Drugs and Their Uses***

*TechneScan MAG3*<sup>®</sup> (Mallinckrodt), also known as mercaptoacetyl-glycyl-glycyl-glycine, is indicated for renal imaging and as an aid in assessing renal function. Following intravenous injection, the tracer is rapidly cleared from the blood and excreted by the kidneys predominately via active tubular secretion and, to a small extent, glomerular filtration. Renal uptake and excretion, and renal time-activity (renogram) curves, quantitatively agree with those of I-131 iodohippurate. Because it provides better image quality while delivering a smaller radiation dose to the patient, Tc-99m MAG3 will likely replace I-131 iodohippurate in most settings.

Tc-99m MAG3 is useful for assessing renal tubular function, including differential or split function, of native kidneys and transplanted kidneys.<sup>1</sup> It is also useful in conjunction with angiotensin-converting enzyme inhibitors (e.g., captopril) for detecting renal artery stenosis in hypertensive patients with suspected renovascular cause.<sup>2</sup>

*Tc-99m Teboroxime* (Cardioteck<sup>®</sup>—Squibb), also referred to as a BATO complex (boronic acid adduct of technetium oxime), is indicated for myocardial perfusion imaging. Following intravenous injection, it is rapidly cleared from the blood with peak myocardial activity seen within 2 minutes. Unlike Tl-201 chloride, Tc-99m teboroxime is a neutral, lipophilic compound that readily diffuses across cell membranes. Once in the myocardium, it washes out with the major compo-

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Mr. Ponto is chief nuclear pharmacist, University of Iowa Hospitals and Clinics, and Clinical Associate Professor, University of Iowa College of Pharmacy. This work was presented at the Iowa Radiological Society Annual Meeting in April.

nent, having a halftime of approximately 6 minutes. No significant "redistribution" occurs. Hence, rest and stress studies require separate injections of the tracer but can be performed within an interval as short as one hour. Compared with Tl-201, advantages of Tc-99m teboroxime include those associated with Tc-99m as a radionuclide and the ability to perform a complete rest/stress imaging study in under 2 hours.

Employed with rest and stress techniques, Tc-99m teboroxime is useful for detecting coronary artery disease.<sup>3</sup> It is also useful for determining right and/or left ventricular ejection fraction by first pass radionuclide angiography.<sup>3</sup>

Tc-99m Sestamibi (Cardiolite®—Dupont), also known as RP-30, RP-30A and methoxyisobutyl-isonitrile (MIBI), is indicated for myocardial perfusion imaging. Following intravenous injection, it is rapidly cleared from the blood with peak myocardial uptake oc-

cur pass radionuclide angiography and for assessing regional wall motion from cine display of EKG-synchronized perfusion images.<sup>7</sup>

Unlike virtually all other drugs, the user does not actually purchase the drug but pays a licensing fee (bailment) for the use of the manufacturer-owned drug. This type of unconventional license agreement allows greater manufacturer control of the drug while providing avenues for legal recourse and abrogation of liability in certain cases of the drug's misuse.

**Dipyridamole Injection (IV Persantine®)** is indicated as an alternative to exercise in myocardial perfusion imaging for the evaluation of coronary artery disease.<sup>8</sup> Following intravenous infusion (0.142 mg/kg/min × 4 minutes), dipyridamole causes coronary vasodilation of healthy arteriolar networks but has little or no effect on diseased vessels. The vasodilation of healthy vessels may even result in a "steal" of blood flow away from stenosed coronary vessels. If serious adverse reactions (e.g., severe chest pain or bronchospasm) should occur, prompt reversal of dipyridamole effects can be rapidly achieved with the intravenous injection of aminophylline. Since other methylxanthine compounds can also block the effects of dipyridamole, patients must avoid the ingestion of food, drink, or drugs containing theobromine (chocolate), caffeine or theophylline prior to the procedure.

Although not completely understood, dipyridamole is believed to act indirectly by blocking reuptake of adenosine, a potent vasodilating agent. Hence, some physicians are using adenosine infusion to directly produce coronary vasodilation for stress myocardial perfusion studies.<sup>9</sup> Although adenosine injection is not yet approved for this purpose, it is commercially available for the treatment of supraventricular tachycardia as Adenocard® — Fujisawa.

## Regulations and Radioactive Drugs

The Nuclear Regulatory Commission (NRC) recently enacted a major revision of 10 CFR Part 35 — Medical Use of Byproduct Material.<sup>10</sup> Users in many agreement states including Iowa, however, have continued to operate under older radioactive materials li-

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*'Although not completely understood, dipyridamole is believed to act indirectly by blocking reuptake of adenosine.'*

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curing within 5 minutes. In spite of its +1 charge (like Tl<sup>+1</sup>), it is not localized by the Na<sup>+</sup>/K<sup>+</sup> pump but instead enters the heart by lipophilic diffusion. Once in the myocardium, it exhibits prolonged retention with a washout halftime of ≥ 6 hours and negligible "redistribution." Rest and stress studies thus require separate injections, but "fixed" tracer distribution allows flexibility in scheduling imaging sessions. Compared with Tl-201, advantages of Tc-99m sestamibi include those associated with Tc-99m as a radionuclide and the ability to obtain additional information such as first pass ventricular ejection fractions and EKG-gated imaging for cinematic analysis of wall motion.

Tc-99m sestamibi is useful for evaluating myocardial infarction, including the effectiveness of thrombolytic therapy.<sup>4,5</sup> Employed with rest and stress techniques, it is also useful for detecting coronary artery disease.<sup>6</sup> It is useful for determining right and/or left ventricular ejection fraction by first



cense conditions until state regulations are revised. Since the Iowa Department of Public Health (IDPH) is in the process of revising the radioactive materials regulations, a brief review of selected changes seems to be in order. (A more detailed description of these regulations is available from the author.)

Several areas of regulatory revision serve merely to codify requirements that were previously incorporated in nearly all radioactive materials licenses as conditions.

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*'During 1990, the FDA approved 23 new prescription drugs, 4 of which are diagnostic drugs for use in nuclear medicine.'*

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Pertinent examples of such requirements include: reporting of misadministrations; quality control of dose calibrators; measurement and labeling of radiopharmaceutical dosages; storage and disposal of radioactive waste; and determination of Mo-99 contamination in Tc-99m radiopharmaceuticals.

The change affecting the most physicians may be the withdrawal of the requirement that radiopharmaceutical use must follow the package insert. With rescission of this restriction, physicians may now use approved radiopharmaceuticals for clinically accepted, albeit non-approved, uses. A few examples of non-approved uses of approved radiopharmaceuticals include: Tc-99m sulfur colloid for evaluation of gastric emptying, vesico-ureteral reflux and lacrimal drainage; Tc-99m DTPA for evaluation of ventricular-peritoneal shunt patency; and In-111 labeled platelets for evaluation of deep vein thrombophlebitis.<sup>12-16</sup>

Although physicians may now exercise their professional judgement in the clinical use of radiopharmaceuticals (*vide supra*), the preparation of these radiopharmaceuticals has, until recently, been restricted to following package insert instructions. In response to a petition filed by the American College of Nuclear Physicians and the Society of Nuclear Medicine, the Nuclear Regulatory Com-

mission issued an interim rule effective through August 23, 1993 which allows departure from the package insert instructions for preparation of FDA-approved kits.<sup>11</sup> A prime example of a desired departure of this sort is the preparation of Tc-99m MAA with a reduced number of macroaggregated albumin particles per dosage so perfusion lung scans may be more safely performed in patients with pulmonary hypertension or right-to-left shunts. These departures, however, require creation and maintenance of certain records as specified in the final rule.

## Conclusion

A variety of new nuclear medicine drugs along with less stringent restrictions on radiopharmaceutical preparation and use now provide physicians with many new opportunities to noninvasively diagnoses disease and monitor treatment.

## References

References are available from either the author or the editors of *IOWA MEDICINE*.

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Jon Gates, M.D.



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# Coping with Rapid Advancements

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*The explosion of technology has hit radiology with more force than any other specialty, says the author of this month's special expanded feature. The immediate past president of the Iowa Radiological Society — a Burlington Radiologist — discusses the current developments in his specialty and the goals of the specialty society.*

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### What is the current picture with regard to supply of radiologists?

There is an apparent nationwide shortage of radiologists with some exceptions in the coastal areas. The situation has been aggravated by several factors. There has been steady increase in the number of radiographic procedures performed and many of these procedures are much more labor-intensive. A few years ago the radiology residency requirement increased from 3 to 4 years, so there was a year during which virtually no radiologists entered the marketplace.

In addition, more and more residents have seen fit to continue their education beyond the general radiology residency program with a fellowship in a focused area such as interventional radiology, CT-MR, etc. There is only one radiology training program in Iowa.

Unfortunately, a relative value survey undertaken by the American College a few years ago demonstrated that reimbursement rates for Iowa radiologists are the lowest in the country.

This makes recruitment even more difficult, particularly in light of recent actions by HCFA in regard to Medicare reimbursement.

Many radiologists have opted for early retirement as a result of increasing social and political pressures on physicians in all specialties. This has further aggravated the shortage of radiologists throughout the country.

### What recent technological and scientific advances have affected your specialty?

The explosion of technical advancement in medicine has probably been more widely exemplified in radiology than any other specialty. These developments were largely enhanced by the introduction of computers into the production of radiology equipment as well as for use in managing a central office and producing reports. These advancements began in earnest in the early 1970s with the development of diagnostic ultrasound and CT, nuclear medicine, SPECT scanning and MRI.

There have also been significant improvements in radiographic and fluoroscopic imaging equipment and television imaging chain. New features have been developed such as digital subtraction imaging for arteriography and video fluoroscopic imaging used to assess the swallowing mechanism. There has been considerable improvement in the basic tools of radiographic film and processing materials and equipment as well.

While the new modalities such as CT and ultrasound have received much attention, the

*(Continued next page)*

information obtained from the ordinary examinations such as the chest x-ray and bone and joint radiology has also improved immensely with these developments. However, a great deal of effort, time and money is required to keep up with and develop these skills.

#### **What socioeconomic developments have influenced the practice of radiology?**

The same socioeconomic factors that affect all of medicine affect radiology — especially in the area of turf battles. However, I think expectations have had the greatest socioeconomic influence on radiology over the last few years — expectations on the part of

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*'New features have been developed such as digital subtraction imaging for arteriography and video fluoroscopic imaging used to assess the swallowing mechanism.'*

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patients, consulting physicians and third party payors. Some expect immediate answers, while others expect the cost of health care to be controlled. This has resulted in a whole new set of pressures and demands on the practice of radiology. Medical problems used to be worked through one step at a time with frequent interchange between the referring physician and radiologist. Now, the approach is to do a whole battery of examinations so that decisions can be made about the hospital admissions or other forms of patient management. While some of these developments such as the 23-hour admission were designed to control health care costs, they seem to have had the opposite effect. The end result is physicians are blamed for the cost of health care, costs over which they have no control.

#### **What are the concerns and goals of the Iowa Radiological Society?**

The Iowa Radiological Society has largely served as a liaison between Iowa's practicing radiologists and the American College of Radiology, which assists with practice management functions and problems for the practicing radiologist, and acts as our voice in the

socioeconomic and political arena. Obviously, these functions have become much more vital in recent years.

The goal of the state chapter, in the last few years, has been to become more active in this liaison function, making it easier for members to make their concerns and interests known, and in turn to communicate the responses and concerns of the American College. This has been accomplished through a more active executive committee role as well as development of a statewide newsletter for more effective communication.

It is hoped these efforts will help insure that the needs of Iowans are better met and that radiologists can more efficiently deliver the services to the referring physicians and patients. The goal is to enhance the practice of radiology in Iowa to correct the current shortage and prevent further erosion of the supply of radiographic services.



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# When Your Patient Can't Take the Stress

JOHN FLOYD, M.D.

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*How should you evaluate a patient who can't perform a treadmill test? This author says there are 2 drugs which simulate cardiovascular stress and allow necessary tests to be carried out.*

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**R**OUTINE MYOCARDIAL PERFUSION IMAGING began in the mid 1970s with Thallium-201. Introduction of SPECT (Single Photon Emission Computed Tomography), PET (Positron Emission Tomography) and new radiopharmaceuticals have been associated with increasing clinical use of myocardial imaging for detection of coronary artery disease, risk stratification, prognostication and evaluation of patients for restenosis/occlusion following angioplasty or surgery.

Myocardial perfusion imaging involves the mapping of regional tracer distribution in the myocardium for 2 conditions: with tracer injected during maximum exercise and with tracer injected at rest. Comparison of these rest and stress images usually allows differentiation of stress-induced ischemia from my-

ocardial necrosis and scarring. For several years the need to evaluate patients who are unable to perform standard treadmill exercise has been recognized. Two drugs are now in use which provide a pharmacologic 'stress' that can be combined with radionuclide studies to provide information on regional myocardial blood flow which is very similar to that obtained when utilizing treadmill exercise.

## *Physiologic Basis for Pharmacologic Stress*

Adenosine is an endogenous purine nucleoside with diverse physiological actions. Adenosine has been shown to cause coronary and peripheral vasodilation, altered cardiac function and conductivity and inhibition of platelet aggregation.<sup>1</sup> The *in vivo* half-life of adenosine is less than 10 seconds. Dipyridamole given orally or intravenously will elevate plasma adenosine levels, presumably by preventing the cellular uptake of adenosine throughout the body, thereby potentiating its cardiac effects.<sup>2</sup> Adenosine itself can be infused intravenously to achieve those same effects in a somewhat more predictable fashion. Also, the extremely short half-life of adenosine allows for interruption of the physiologic effects very rapidly by interrupting the infusion.

When either of these agents is administered, blood flow to myocardium supplied by normal coronary arteries increases 2.5-5.0 in endocardial and epicardial layers, reflecting normal coronary reserve. However, when

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The author is director of nuclear medical services at St. Luke's Hospital and Mercy Medical Center, Cedar Rapids.

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION AWARD FOR NOVEMBER 1991

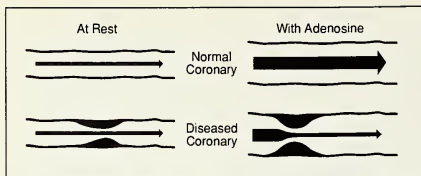


Figure 1. Effects of adenosine on coronary flow in normal and diseased coronary arteries.

these agents are administered in the setting of a critical coronary artery stenosis, blood flow through the diseased artery will not change appreciably. At the cellular level, flow may increase slightly in the sub-epicardium but may actually fall in the sub-endocardium distal to the coronary narrowing.<sup>3,4</sup>

Under basal conditions, there is usually uniform blood flow through the myocardium, even in the presence of significant coronary narrowing. Imaging of the heart after tracer injection to the resting subject will reflect this uniform blood flow. However, when tracer is injected during pharmacologic vasodilation of normal coronary vessels, the myocardium distal to a significant coronary stenosis will reflect lower levels of blood flow relative to areas supplied by more normal coronary arteries (Figure 1).

### Clinical Imaging Protocol

The perfusion stress test using dipyridamole employs a dose of 0.56 mg/kg administered as an infusion (0.14 mg/min for 4 minutes). Since the onset and magnitude of the vasodilatory effect are somewhat less predictable with dipyridamole, and physiologic effects may be seen for up to an hour after dipyridamole infusion, we have utilized direct adenosine infusion in Cedar Rapids.

Adenosine is infused at a constant rate of 140  $\mu$ g/kg/min for 6 minutes. Three minutes after initiation of the infusion, tracer is injected and the infusion continued for 3 more minutes. During this time the radiopharmaceutical is extracted from the blood by the heart and other organs.

Tomographic imaging of the heart is then accomplished. Additional tracer is injected separately at rest and additional images obtained (Figure 2). Mild side effects, including



Figure 2. Tomographic images of myocardial perfusion. Those on left are obtained with adenosine infusion, those on right at rest. Top images are horizontal long axis, middle images are vertical long axis, and lower images are short axis through the left ventricle. The antero-apical wall of the left ventricle has much less tracer accumulation after adenosine infusion than at rest, indicating a flow limiting coronary lesion in the distal branches of the LAD.

transient A-V block, are common with adenosine.

In a formal review of the first 350 studies carried out with adenosine in Cedar Rapids, the technique proved to be very safe; 348 of 350 patients successfully completed the examination without interruption.

There were no deaths and no myocardial infarctions associated with adenosine administration in these 350 patients. Our experience now includes well over 1,000 patients, with a similar safety experience.

### Radiopharmaceutical Selection

Thallium-201 has been the mainstay of myocardial imaging for 15 years. However, it is not an ideal agent for imaging myocardial perfusion because of its physical decay char-



acteristics and the relatively rapid rate of clearance from the myocardium. The FDA has recently approved 2 radiopharmaceuticals for evaluation of regional myocardial perfusion which are both labeled with Tc-99m, a radionuclide with much more favorable decay characteristics. These agents are not equivalent substitutes for Tl-201 and they require alterations in test methodology. Initial reports suggest at least diagnostic equivalency to Tl-201 and perhaps some advantages.

### ***Applications of Adenosine Myocardial Perfusion Imaging***

Eleven published studies have reviewed the sensitivity and specificity of pharmacologic stress scintigraphy for coronary artery disease in a total of 735 patients. The composite sensitivity of 85% and specificity of 91% were not significantly different from the sensitivity of 93% and specificity of 87% we have observed in Cedar Rapids.<sup>3</sup> As with perfusion imaging combined with treadmill exercise, adenosine scintigraphy can be employed to differentiate between ischemia and scar to determine the presence of residual myocardial viability in patients demonstrating regional wall motion abnormalities.<sup>5</sup>

Adenosine perfusion imaging has also been used to distinguish between ischemic and nonischemic cardiomyopathy.

Adenosine scintigraphy provides useful prognostic information in patients with recent myocardial infarction or chronic coronary artery disease. Studies have demonstrated that post infarction patients can safely undergo adenosine scintigraphy for risk stratification. Adenosine-induced reversible perfusion defects have a high correlation with the high incidence of subsequent cardiac events, while the lack of such reversible defects is associated with extremely low in-hospital cardiac events and much lower post-discharge cardiac events.

A study by Handel, et al of 516 consecutive patients indicated that an abnormal myocardial perfusion scan after dipyridamole was an independent and significant predictor of subsequent infarction or death since it was associated with a 3-fold increase in relative risk of any cardiac event. The presence of a reversible defect further increased the risk.<sup>6</sup>

Boucher et al first reported the clinical utility of pharmacologic stress imaging for preoperative risk stratification in patients

undergoing vascular surgery. In patients with a prior history of angina or myocardial infarction, the presence of Thallium 201 redistribution on preoperative dipyridamole scintigrams was superior to any other clinical indicator for predicting perioperative cardiac death, myocardial infarction, unstable angina or pulmonary edema. No cardiac events were observed in 32 patients whose perfusion scans were either normal or showed only persistent defects.<sup>7</sup>

Eagle and his co-workers suggested selective application of myocardial scintigraphy in these patients. In the absence of a combination of prior infarction, congestive heart failure, angina pectoris, diabetes mellitus and q-waves on the resting electrocardiogram, there is a low likelihood of a perioperative cardiac event. Scintigraphy was not of additional value for risk stratification. In contrast, among patients with one or more of these clinical variables, 50% were shown to have a reversible defect on the preoperative scan. Nearly one half of these patients experienced a postoperative ischemic event, compared with no postoperative events in patients without tracer redistribution.<sup>3,8</sup>

Pharmacologic stress scintigraphy has been used to identify patients prone to develop recurrent angina due to restenosis following coronary angioplasty or coronary bypass surgery. In one study, 71% of patients demonstrated a redistributed defect after angioplasty, compared to only 11% of patients who did not develop recurrent angina or restenosis. These findings are comparable to observations with treadmill exercise scintigraphy.<sup>3,9</sup>

### ***Who Should have Dipyridamole or Adenosine Scintigraphy?***

Sensitivity and specificity for detecting coronary artery disease and the ability to provide risk stratification is similar for pharmacologic and treadmill scintigraphy. Therefore the pharmacologic 'stress test' using dipyridamole or adenosine should be strongly considered for patients unable to perform an adequate exercise test. This would include such non-cardiac abnormalities as peripheral vascular disease with claudication, arthritis, disabling cerebral vascular disease, a variety of orthopedic problems, and amputations.

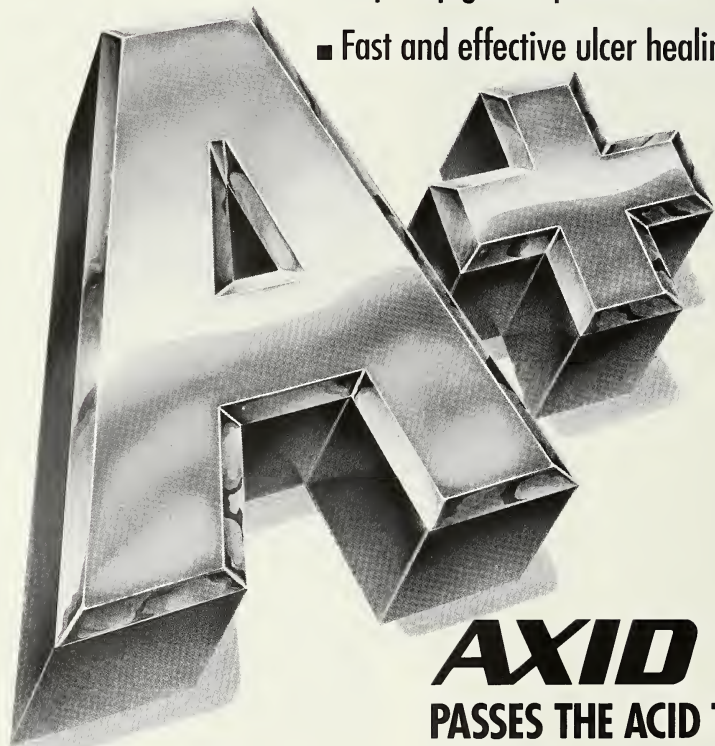
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# Thoracic Outlet Syndrome: A Socio-cultural Refutation

RICHARD LAWTON, M.D.  
Iowa City, Iowa

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***The Burmese practice of using brass rings to "elongate" the neck may cast doubt on the neurological etiologic aspect of thoracic outlet syndrome, says this author.***

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CONTROVERSY CONTINUES OVER THE legitimacy of thoracic outlet syndrome. The pathophysiology is seemingly dependent on the perceived 2-dimensional anatomical illustrations. There is a reported recurrence rate as high as 20% and the cases often end in litigation. The multiplicity of operations selected for the relief of symptoms suggests a variety of etiologies. The Burmese practice of using heavy brass rings to seemingly elongate the neck has been studied and may refute the neurological etiologic aspect of the syndrome.

Syndrome surgery is often characterized by the lack of pathological tissue with which to make a diagnosis. One constant component of syndromes is subjective neurological impairment. Though thoracic outlet syndrome reputedly is related to brachial plexus compression, a few investigators report a combined neurological and vascular abnormality.

The cause of the compression is usually an encroachment of clavicle on first rib.<sup>1</sup>

Syndromes tend to be detected and treated by surgeons within certain geographic areas. These surgeons may accumulate a huge experience with these operatively treated syndromes where their colleagues with equal skills may see few cases.<sup>2</sup> Post-operative follow-up on the patients subjected to surgical intervention is often incomplete and the placebo effect of surgery is overlooked.<sup>3</sup> An occasional person who has a cervical rib attached to the first rib either directly or through a tendinous structure might experience symptoms of thoracic outlet syndrome.<sup>4</sup> However, most of the patients do not have an anatomical abnormality. Many nerves in the brachial plexus may be involved although typically it is the caudal branches. Thenar atrophy may be present. Vascular symptoms are not usually prominent; some authors claim they have no place in the diagnosis of this entity.<sup>5</sup>

## ***Pathological Causes***

There are many real pathological entities that may cause or duplicate the so called thoracic outlet syndrome, such as intra-and-extra medullary spinal cord lesions, infarction of segments of the spinal cord, brachial plexopathies and focal peripheral neuropathies. Reflexes in the extremity are seldom abnormal. Cervical radiculopathy may be associated with some of the findings with involvement of the nerve roots C8 to T1 from a variety of causes.<sup>6</sup>

A number of surgical procedures have been advocated for relief of brachial plexus compression. Resection, or section of the anterior scalene muscle was once popular, as was

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Dr. Lawton is a clinical professor emeritus of surgery, University of Iowa, Iowa City.



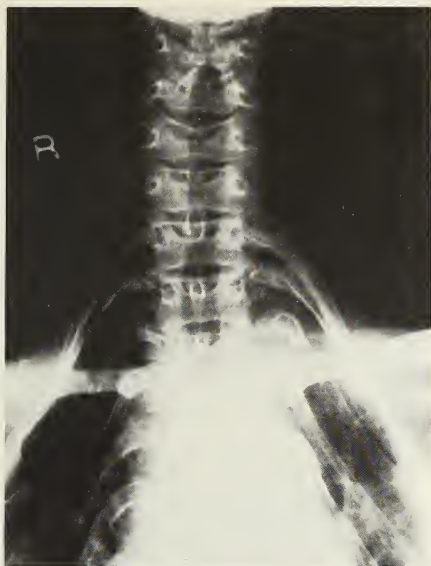


Figure 1. Radiograph of "giraffe" woman who had the heavy rings removed to treat an illness.

claviclectomy. Some authors have combined scalene section with posterior thoracoplasty.<sup>4</sup> The transaxillary approach to resection of the first rib is now popular.<sup>2</sup>

Nerve conduction studies are less useful for the axial part of the skeleton, and they pose difficulty in interpretation. In different age groups and under changing conditions (e.g. placement of electrodes, temperature and distance) nerve conduction studies may be misleading.<sup>7</sup> No study exists in which careful anatomic evaluation has been done and the appearance of the nerves at the time of first rib resection usually gives no hint of compression involvement. Biopsy of nerve and adventitious tissue in the area has not regularly been done.

Some inadvertent studies of brachial plexus compression have been done, albeit of a cultural nature. The Padaung women of Burma (sometimes referred to as "giraffe women") and some African cultures (Ndebele) have used a series of brass rings to encircle the neck giving the outward appearance that

the vertebrae have been stretched and the neck elongated. Little is known of the pathological anatomy created by these rings. The first ring is placed on a girl's neck at about 5 years of age and additional loops are added periodically. Thirty or more rings may eventually be worn by adult women. These rings are about 1/3 inch wide. As the rings are gradually added, the downward pressure displaces the clavicle against the first and second ribs narrowing the clavicular-costal aperture. It could be anticipated that this would create the conditions for a thoracic outlet syndrome.

### ***American Physician Visited Burma***

The studies referred to here were reported by an American physician who visited Burma and managed to obtain photographs of the women as well as a radiograph of a woman whose rings had been removed.<sup>8</sup> No clinical evidence of thoracic outlet syndrome was found in these women. There was no atrophy

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*'There is little doubt that the clavicle is the first bone depressed by the multiple rings and that upper ribs are pushed caudally accounting for the perceived elongation of the neck.'*

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in the muscles of the upper extremity. The rings are also worn on legs, forcing the women to walk with a waddle.

Figure 1 shows a radiograph of a woman from Padaung who had the rings removed and demonstrates the caudal displacement of the clavicle on the first rib. The fixed points are the roots of the nerves forming the plexus and the articulations of the ribs with the axial skeleton. The clavicle, not having a fixed point with a vertebra, is free to descend on the first rib. Figure 2 (following page) is a normal radiograph in the posterior-anterior projection.

Figure 3 is a photograph of a female with full array of rings with medallions. This 'ring' custom is also practiced in certain parts of Africa. The Ndebele women of South Africa wear neck, arm and leg rings.<sup>9</sup> In Africa these rings

*(Continued next page)*



Figure 2. Normal posterior/anterior radiograph of a female.



Figure 3. Burmese woman with an array of heavy brass rings which are placed in position until the top most one impinges on the mastoid process.

are referred to as *lindzila's*; they are a sign of social status and wealth. The custom has been made illegal in Burma but still persists.

It is concluded after studying the radiographs that the interval between the clavicle and the first rib must be very narrow. This would tend to negate the usual pathophysiologic processes invoked for the development of the thoracic outlet syndrome. There is little doubt that the clavicle is the first bone depressed by the multiple rings and that upper ribs are pushed caudally accounting for the perceived elongation of the neck.

Serious complications have been reported from operations for thoracic outlet syndrome, from devascularization of the upper extremity to paralysis of phrenic and recurrent laryngeal nerve.<sup>10</sup> The incidence of reoperation varies, but the mean is about 5%.<sup>11, 12</sup> Among thoracic procedures, this operation has a high frequency of litigation.<sup>5</sup>

Discussion continues among surgeons of equal skills regarding the constellation of symptoms that constitute a thoracic outlet syndrome. Perhaps the women of Padaung and the Ndebele of Africa will contribute to understanding of the problem.

## References

References noted in this article are available either from the author or the editors of *IOWA MEDICINE*.

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## Letter to the Editor

### Economics in the Medical Curriculum

Dear Editor:

The rapidly changing health care environment calls for physicians with background in economics to help forge a more efficient and equitable system of health services. Medical schools should encourage instruction in health economics for students interested in the relationship between medical practice and the organization and performance of the health care sector. At a minimum this consists of one course covering microeconomic theory with health sector applications.

A course in microeconomics with health applications permits students to better integrate economic and political events with medical practice. The course could be offered directly by medical schools or by departments of economics. It should introduce students to theories of demand, production, monopoly, input markets, general equilibrium and the role of government. This exposure helps students understand how competitive markets can generate efficiency and how markets that are not competitive misallocate resources.

An economics course will increase appreciation of cost-effectiveness analyses of medical intervention. Care is efficient if the benefit of each increment of care exceeds the cost. Intervention is inefficient and should not be encouraged if incremental costs are greater than benefits. Identifying which interventions are worth it and which are not can go a long way to solving the national health care cost crisis.

The study of market structures provides another useful topic of inquiry that can help physicians better understand government policies. Antitrust law was designed to curb monopoly power. Government rationale for blocking mergers or constraining referral arrangements relies heavily on economic theory for justification. The study of monopoly and other market structures helps to make sense of a seemingly complex area of the law.

A rudiment of training in health economics provides a framework for an enhanced understanding of the health sector. Physicians should be better prepared to help policy makers improve and maintain a system that produces healthier people at acceptable costs. Educators have a responsibility to insure that future medical graduates are able to serve society in a wider and more comprehensive manner than has been the custom to date. — *Peter Hilsenrath, Ph.D., Graduate Program in Hospital and Health Administration, Iowa City.*

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**SYMPTOMS:** Acute distortion by the medical liability system. Persistent lobbying by trial lawyers for legislation to destroy the liability reforms passed in Iowa. Chronic fingerpointing by some elected officials and special interest groups trying to make doctors scapegoats for increasing healthcare costs. **DIAGNOSIS:** A malignant growth on the health care system caused by toxic legislation. **IS THERE A DOCTOR IN THE SENATE? PROGNOSIS:** If the medical profession and other concerned lant, our fine medical system – the best in the world – will be in danger of being “cures”. **TREATMENT:** A strong dose of support for your voluntary team of tives and professional lobbyists, through your membership in the Iowa Medical tee (IMPAC) and the American Medical Political Action Committee (AMPAC). **PREVENTION:** Funds raised through IMPAC and AMPAC from PERSONAL CONTRIBUTIONS go directly, 100%, to help legislators and candidates for office who support us on key medical issues. Mail your PERSONAL check today using the coupon below to ensure a healthy future for legislation that affects your patients, your profession and your future!

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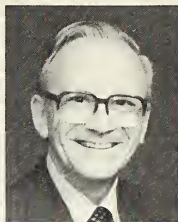


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## The Editor Comments

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Marion E. Alberts, M.D.



# Pallid Shades and Shadows

*Shadows are but dark holes in radiant streams, twisted rifts beyond the substance, meaningless in themselves.*

*He who would comprehend Röntgen's pallid shades, needs always to know well the solid matrix whence they spring. The physician needs to know intimately each living patient through whom the racing black light darts, and flashing the hidden depths reveals them in a glowing mirage of thin images, each cast delicately in its own halo, but all veiled and blended endlessly.*

*Man — warm, lively, fleshy man — and his story are both root and key to his shadows; shadows cold, silent and empty.*

THIS QUOTATION FROM THE preface of John Caffey's first edition of his monumental text on *Pediatric X-ray Diagnosis* (1945) is still appropriate in our consideration of the medical specialty of radiology. For example, that first edition contained, in only 5 paragraphs, the subject of "opaque angio-cardiography and cardiac catheterization." The only reference given was of Kjehlberg's report from Sweden on diagnosis of congenital heart disease.

However, in the preface of his third edition (1955), Caffey states "Some of the more elaborate new technics have been intentionally omitted because they required so much space; these include opaque angiocardiology, cardiac catheterization, planigraphy, opaque cerebral angiography and opaque myelography." Those 10 years were noted

for great advancements; and elaborate embellishments on technics continue. Yet, Caffey stated in 1955 that in radiologic practice and teaching there is a "failure to emphasize sufficiently the limitations of the roentgen method." That admonition is so true in many of our diagnostic methods. Though we use scientific methods in our diagnostic deliberations much still depends on an adequate patient history and physical examination. The physician must be fully cognizant of all the important normal variants. Then the abnormal findings can be fully realized.

This issue of *IOWA MEDICINE* concerns new advances in radiology and nuclear medicine. Science in partnership with the art of medicine provides technological horizons not imagined during the span of one generation of practicing physicians. Even so, it seems imminent that our abilities now will be superseded by revolutionary modalities in the future.

Ours is not a static profession. I dare say that medicine, including our knowledge in pharmacology and therapeutics, has no peer in the strides made in the past century. Of course we have borrowed from discoveries in nuclear physics, electronics and chemistry. All these sciences blend to provide our patients with ever-improving medical care. The ingredient so important, that I would be remiss in not mentioning it, is human relationships. The art of medicine cannot and must never be divorced from the practice of medicine.— M.E.A.

Richard M. Caplan, M.D.



## Pasteur Was Not a Physician

A RECENT AD IN A MAJOR MEDICAL journal, placed by the manufacturer of a widely used antibiotic, presented a full page drawing of Louis Pasteur with bold type one inch high proclaiming him to be a **POWERFUL PHYSICIAN**. The smaller-print text affirmed the error: "Accomplished in biology and chemistry, Pasteur was a skillful physician."

Sorry, gang, Pasteur was not a physician; he was a doctor — of philosophy (chemistry). But I tell you this not to chide you (if you thought he was a physician) or the company (for getting egg on its face in great big black type). Instead, the circumstance prompts me to relate a story told me by Dr. Robert Hardin, formerly dean of the University of Iowa College of Medicine. Our Health Sciences Library now bears his name.

Bob was a man of many parts. Early in his career he had done basic work dealing with the safe preservation and transport of blood. During World War II he directed blood-banking and related laboratory work for the European theatre of operations. Within days of the liberation of Paris he was sent there from his base in England with instructions to establish quickly a new home for his activity. He was taken to the Pasteur Institute and told the building was to be turned over to his needs. He said:

I saw that the building, although remarkably free of war damage, was not adequate to our particular requirements. We needed many more laboratory modules and smaller offices. The colonel who had been assigned to work with me to get things rolling said, "We can have equipment here in the morning to gut the place and rebuild it however you say." I walked around the handsome, old-fashioned structure, saw portraits of Pasteur and other scientific greats still on the wall (to my surprise), saw the great marble central staircase very wasteful of space, thought about the many extraordinary advances that had been discovered in this building, and decided I just couldn't bring myself to "remodel" it if there were any way to avoid it. I asked the colonel to drive me around Paris to see if I could find an alternative. Fortunately we found a sort of warehouse in the outskirts that was reasonably intact and under the army's jurisdiction. My request to use it for our blood-banking headquarters and lab was approved, and we moved into it a few days later.

Bob told me that story perhaps 2 years before he died in 1988. We were driving together to a meeting of the education committee of the Iowa Medical Society. The story moved me greatly, maybe especially because of the soft, understated manner so characteristic of him. I urged him to record that bit of history in full detail for posterity. He didn't say he would or wouldn't. About a year later, I inquired. He said he hadn't, again with no promise attached. As far as I know, he never did. I'm glad the advertising error goaded me to tell Bob's story here.

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Dr. Caplan is Coordinator, Program in Medical Humanities at the University of Iowa College of Medicine.

## New Legislation for Health Care Decisions

IOWA HAS A NEW LAW that brings this state into conformity with most other states. The law is called "Durable Power of Attorney for Health Care Decisions."

The Iowa statute represents a cooperative effort of the Iowa Medical Society, Iowa State Bar Association, Iowa Hospital Association and several other groups.

All 50 states now have durable-power-of-attorney statutes enabling an individual (the "principal") to give another person (the "attorney-in-fact," or "agent") authority to carry out the designated tasks on the principal's behalf. However, these durable-power-of-attorney statutes do not usually indicate if health care decisions are included in this authority.

The new law states that a competent individual may designate in writing another person as agent to "make health care decisions on behalf of the principal." If the designated person consents to act in this capacity should need arise, he or she will then have the power to consent, refuse to consent, or withdraw consent to medical treatment.

### *Living Will Is Limited*

The new law will supplement an earlier law concerning treatment decisions. The 1985 Iowa "Life-Sustaining Procedures Act" has several limitations that complicate decision making when a nonautonomous patient is incapable of consenting to or refusing life-sustaining medical treatment. For example, the 1985 law is limited to terminally ill patients and does not include feeding tubes as medical treatment that can be refused.

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This column is written by Robert Weir, Ph.D., director of biomedical ethics for the University of Iowa College of Medicine.

According to the new law, a nonautonomous patient's agent has the power to make health care decisions for the patient whenever the patient is unable to do so. Thus the law applies to nonautonomous patients (e.g., patients in persistent vegetative state) who may not be terminally ill.

The new law includes technologically provided nutrition and hydration as a type of medical treatment that can be abated at a surrogate's request when that decision is (a) consistent with the patient's known preferences or (b) in the patient's best interests when the patient's preferences regarding specific treatments are unknown. In the words of the law, "health care" does not include the provision of nutrition or hydration except when they are required to be provided parenterally or through intubation."

For legal advice concerning this law, contact your attorney, the ISBA or the IMS. As to how the new law may affect the ethics of caring for patients, consider the following points:

1. The right of patients to refuse life-sustaining treatment does not depend on their having signed a legal directive to that effect.
2. Nonstatutory advance directives (not backed by state law) can be morally persuasive in many instances.
3. You can make some later treatment decisions less difficult by encouraging patients to sign advance directives in advance of critical illness.

*Editors' note: The IMS, Iowa Hospital Association and Iowa State Bar Association are preparing a pamphlet which explains Iowa's Living Will and Durable Power of Attorney Laws. It will be available sometime before the end of this year.*





**"I have never gotten used to people dying. And I don't want to get used to it."**

Dr. Aliza Lifshitz, Internist, Los Angeles, California, Member, American Medical Association

Patients come to physicians for many reasons. Beyond relief from pain, they seek compassion, empathy and support. AIDS patients receive all of these and more from Dr. Aliza Lifshitz.

Born and raised in Mexico and educated at one of Mexico City's finest medical schools, Dr. Lifshitz now serves the Hispanic community in Southern California. Over a third of her patients have tested HIV positive. Most live below the poverty level. Many are illegal aliens.

"I never forget what it means to be a doctor, and what it means is embodied in the Principles of Medical

Ethics of the American Medical Association (AMA)," states Dr. Lifshitz.

You are invited to join Dr. Lifshitz and to join with her in her efforts to bring quality health care to those in need. Become a member of the American Medical Association today.

Members of the AMA are encouraged to join their state, county and specialty societies.

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# Physicians Create Healthy Morale

**A** HEALTHY PRACTICE ATMOSPHERE and higher morale are created when employees become partners in your practice. Morale drops and negativity prevails when employees feel left out and taken for granted. Healthy working conditions lead to greater productivity; low morale affects our patients and our profitability.

Common behavioral undercurrents representative of poor employee morale include: breakdown in communication; increased attrition; lack of respect/trust; negative, cynical, pessimistic and rebellious behavior; resistance to change; staff pettiness and stress.

### *Set an Example*

Your leadership style and the actions and behavior you exhibit to your staff have a direct impact on the office climate. How the staff project themselves is a reflection of your leadership or lack thereof. Employees treated with dignity and respect will treat patients in the same manner.

Encourage employee participation. Involving employees in decision-making and problem-solving creates a sense of ownership and a feeling of personal importance which results in practice dedication and professional loyalty.

Delegate your leadership role with care — an effective leader will concentrate on key values and norms that support the goals of the practice.

### *Encourage Communication*

Be accessible. Show an interest in the people who work for you. Learn about them and

take time to talk to them. Let them know you recognize their contribution to the success of the practice. Don't take routine work for granted. Respond rather than react. Be on the lookout for a job well done. Give a compliment now and then, even if there is no particular need to do so.

A compliment from a physician goes a long way in building employee morale. Mark Twain said, "Most of us can live on a good compli-

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*'Morale drops and negativity prevails when employees feel left out and taken for granted. Healthy working conditions lead to greater productivity; low morale affects our patients and our profitability.'*

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ment for a month." However, there will be times when constructive criticism is necessary. Here are some tips:

- Begin your sentence with the word "I" rather than "You."
- Criticism should be directed at the behavior, not the individual.
- Avoid phrases like, "You always," "You never," "You should" or "Why did you?"
- Focus on solutions.

### *Use Power Wisely*

Pointless tirades that you quickly forget may worry an employee for days. Remember, just by being the boss you've acquired tremendous power over other peoples' lives. Use it with consideration.

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This article was written by Shellee Faux, a member of the Iowa Medical Group Management Association. She is office manager for Drs. Holzworth, Bell, Shirk and Bast in Des Moines.

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## About Iowa Physicians

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**Dr. Frederick Asmussen** was recently appointed medical director of Medical Associates HMO, a health care plan owned by Medical Associates Clinic, P.C., Dubuque. **Dr. Jay Ginther**, Bluff Medical Center, Clinton, has been elected to the International Society of the Knee. Within the U.S., 30 states are represented with Dr. Ginther being the first member from Iowa. **Dr. Christopher Hedberg** has joined the practice of **Dr. Joseph Plank**, Mason City. Dr. Hedberg received the M.D. degree from the U. of I. College of Medicine and completed a dermatology residency there also. **Dr. James Justice**, formerly of Medical Associates in Dubuque, has joined Medical Associates of Cedar Rapids. **Dr. David Ferguson** and **Dr. Robert Rea**, U. of I. College of Medicine researchers, have been named to the editorial board of *Circulation*, a cardiology journal. **Dr. Betty Hibler** has begun practice at Medical Associates, Clinton. Dr. Hibler received the M.D. degree from the University of Michigan Medical School, Ann Arbor, Michigan and completed a surgery residency at U. of I. Hospitals and Clinics. She previously practiced in Manistee, Michigan. **Dr. Jose Angel** has joined Des Moines Internists, P.C. Dr. Angel received the M.D. degree from the U. of I. College of Medicine and served a residency at the University of Nebraska Medical Center, Omaha, Nebraska. **Dr. Muhammad Pathan**, Dysart, has been recognized by the U.S. Public Health Service for his work on behalf of the Peoples Community Health Clinic in Waterloo. **Dr. James Olney** has joined **Dr. Surendra Kumar** at Medical Associates, Clinton. Dr. Olney received the M.D. degree from the University of Michigan Medical School, Ann Arbor, Michigan and completed a surgical residency at U. of I. Hospitals and Clinics. He had been in private practice in Michigan prior to locating in Clinton. **Dr. Deborah Janicki** has joined Marengo Medical Center. Dr. Janicki received the M.D. degree from Emory University School of Medicine, Atlanta, Georgia and completed an internship there

also. Prior to locating in Marengo, Dr. Janicki practiced on Whidbey Island, off the coast of Washington. **Dr. Rex Rundquist** has joined the pediatric practice of **Drs. James Boysen** and **Ray Sturdevant**, Sioux City. Dr. Rundquist received the M.D. degree from the U. of I. College of Medicine and served a residency at Children's Hospital Medical Center, Cincinnati, Ohio. **Dr. John Eckstein**, dean of the U. of I. College of Medicine, has retired after 40 years of service. Dr. Eckstein received the M.D. degree and completed his residency at the U. of I. College of Medicine. He was appointed a professor in the Department of Internal Medicine in 1965 and became dean in 1970. **Dr. Mark Muilenburg** has joined the medical staff at Orange City Medical Clinic and Municipal Hospital. Dr. Muilenburg received the M.D. degree at the U. of I. College of Medicine and completed a family practice residency program in Davenport. **Dr. Kathleen Grauerholz** has joined Marshalltown Family Physicians. Dr. Grauerholz received the M.D. degree at the U. of I. College of Medicine and completed a residency at Iowa Lutheran Hospital, Des Moines. **Dr. Craig Herther**, Dubuque Otolaryngology-Head and Neck Surgery, P.C., was recently certified by the American Academy of Facial Plastic and Reconstructive Surgery. **Dr. Rafael Segrera** has begun medical practice at Fontanelle Medical Clinic. Dr. Segrera received the D.O. degree from the University of Osteopathic Medicine and Health Sciences, Des Moines and completed an internship at St. Joseph Mercy Hospital, Mason City. **Dr. Steven Krogh** has joined the Mason City Clinic. Dr. Krogh received the M.D. degree from the U. of I. College of Medicine and served an anesthesiology residency there also. He has been affiliated with Muscatine Health Center and U. of I. Family Practice Residency Program. **Dr. Warren Pevnick** has joined Ottumwa Medical Clinic. Dr. Pevnick received the D.O. degree from Kirksville College of Osteopathic Medicine, Kirksville, Missouri and completed an internal medicine residency at Normandy

Metropolitan Hospital, St. Louis, Missouri. **Dr. Varina Des Marias** has retired after 50 years of medical practice in Grundy Center. Dr. Des Marias received the M.D. degree at the U. of I. College of Medicine and served internships at the State Hospital, Clarinda and at East Cleveland Hospital, Cleveland, Ohio. **Dr. Robert Whinery**, Sioux City, has been given the Honor Award by the American Academy of Ophthalmology. Dr. Whinery, an ophthalmologist in Sioux City for 29 years, was cited for his dedication and outstanding service.

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## Deaths

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**Dr. Raymond Nielsen**, 63, Charles City, died September 8 at Floyd County Memorial Hospital. Dr. Nielsen received the M.D. degree

from the U. of I. College of Medicine and served his radiology residency there also. He practiced in Charles City and the surrounding area for 23 years, retiring in 1984.

**Dr. Dwight Sattler**, 79, Kalona, died September 11 at Mercy Hospital, Iowa City. Dr. Sattler received the M.D. degree at the U. of I. College of Medicine and served an internship at the University of Wisconsin General Hospital, Madison, Wisconsin. Dr. Sattler practiced in Kalona for 45 years, retiring in 1990. He was a life member of the Iowa Medical Society.

**Dr. James Stallings**, 53, Des Moines, died September 11. Dr. Stallings received the M.D. degree from the University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania and completed a plastic surgery residency at New York University Medical Center, New York. Dr. Stallings practiced in Des Moines for nearly 20 years.



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**COUNCIL BLUFFS AREA** — Looking to share 1 or 2 days/week office space. We will provide personnel, only need installations. A procedure room for minor outpatient procedures is preferable. Contact 515/222-1953 for details.

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## Leaving the Pack Behind

**I**N 1971 ARTHUR MULLANEY challenged the citizens of Randolph, Massachusetts to give up cigarettes for the day and donate the money to a high school scholarship fund. Mullaney called the event a "smokeout."

In 1974, newspaper publisher Lynn Smith's campaign to get his town, Monticello, Minnesota to go smokeless for one day laid the foundation for the Great American Smokeout, a nationwide event. Smith's event received extensive media coverage and was adopted by the American Cancer Society (ACS).

### *Fifteenth Anniversary*

The first Great American Smokeout took place on November 20, 1976 and, since that time, the percentage of American adults who smoke is down from 37% to 30%. A sense of humor and good-natured encouragement are the cornerstones of the Smokeout — an approach the ACS believes is more effective than nagging or scolding.

"We have to continue to emphasize healthy choices whenever we can," comments ACS volunteer David Pike, vice president of First Interstate Bank in West Des Moines. "The numbers show that a smaller percentage of our population smokes."

According to a Gallup survey, 18.9 million smokers (nearly 38% of the nation's smokers) participated in last year's smokeout challenge (up 1 million from 1989); 7.4 million stayed off cigarettes for the day. The goal of the November 21, 1991 Smokeout is to help 20% of smokers take a breather for 24 hours. Governor Robert Ray has been chairman of the Iowa Smokeout for 4 years and is a "great supporter" of the event, says Pike.

There are 38 million smokers in the U.S. today and perhaps, says the ACS, some of

these people are breathing easier because of the smokeout. The overall goal of the ACS is clearing all cigarette smoke from America's air by the year 2000. Surveys show attitudes toward smoking have changed during the past decade and are still changing.

### *Most Smokers Want to Quit*

Smoking is increasingly unpopular with the general population. Most Americans think smoking in the workplace should be restricted and a majority think smokers shouldn't smoke in the presence of others. And, perhaps the most telling statistic, 90% of smokers say they want to quit.

But, there is much to be done. The percentage of people who smoke is down, but those who still smoke seem to be smoking more. Heavier smoking by women and teenagers is becoming a particular cause for concern. Cigarette companies are mounting aggressive campaigns against the antismoking movement.

What can physicians do? Plenty, says David Pike.

"Physicians must emphasize to their patients the dangers of what they are doing when they smoke. Physicians should also be aware of the increase in smoking among teenagers — especially teenage girls," he cautions.

Physicians also have an obligation to "support smoke free environments in their offices and all hospitals," Pike concludes.

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November 1991

Iowa Medicine

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## President's Privilege

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R. Bruce Trimble, M.D.



## Four P's

AS A PROFESSIONAL ASSOCIATION, the Iowa Medical Society is guided by certain Principles which are embodied in Policies, or action guidelines. We live in a complex society where other groups also have policies which may bear on or conflict with our own. So we engage in Politics, the process whereby the larger society arbitrates competing interests as it makes social policy.

Physicians expect the IMS to represent them vigorously in this process, and it does. Success depends not only on good policies and effective work in Des Moines, but also on involvement of physicians at home. Legislators frequently are more influenced by constituent contacts and advice from physicians they know and trust than by lobbyists at the Statehouse. Hundreds of physicians make thousands of such contacts every year. Their efforts are facilitated by the IMS *Statehouse Update*, *Mini Messages*, Legislative hotline, Doctor of the Day program, key-contact program and the IMS/IMSA phone bank and legislative Mini-internships. Most physicians do this well and seem to enjoy doing it. If you would like to become more involved, contact Tim Gibson at the IMS.

A legislative program will obviously be most effective if we can deal with thoughtful, effective and receptive legislators. It is here that the fourth P, PAC, becomes important.

Running for office is expensive. In my area, one losing legislative candidate in 1988 spent more than \$33,000. Small contributions carry little weight in such expensive campaigns. PAC's make it possible for individual

contributors with similar interests to pool their efforts for maximum impact.

PAC contributions do not buy votes. The values and philosophies of individuals supported by IMPAC already reflect those of local physicians because they are selected largely on the basis of recommendations and interviews by these physicians.

The IMPAC board also considers a candidate's electability and position in the legislature. Both Republicans and Democrats are supported. Over the last several elections about 80% of IMPAC-backed candidates have won their elections.

A final and unannounced P, the Pitch. The 1992 election will present tremendous opportunities for IMPAC and AMPAC. Because of reapportionment, there will be more open seats and tough fights than at any time in recent years. We need your contribution to make the most of these opportunities. Please check the IMPAC/AMPAC box on your dues statement.

I'll close on an unrelated topic. The winter solstice is a time of wonder and promise. The southward marching sun pauses and then begins to move north. Nights shorten and we know warmth will again return. It is fitting that Christmas comes at this time. Peace and best wishes for the holidays.

A handwritten signature in dark ink that reads "R. B. Trimble". The signature is stylized with a large, flowing "R" and a cursive "Trimble".

R. Bruce Trimble, M.D.  
President

# Colleagues for a Day

STATE SENATOR LEONARD BOSWELL probably would have made a good physician. He has a quietly reassuring demeanor and at least one other necessary quality — he's observant.

The Senator gathered in plenty of impressions during his day practicing medicine with Dr. Mark Young in Creston. Some aspects of medical practice were exactly what he expected; others were a surprise.

Dr. Young, a family physician in the Creston Medical Clinic, and Senator Boswell, a Democrat from Davis City, were participants in the Iowa Medical Society's Mini-Internship program this fall. Through the program, lawmakers get an intimate look at a medical practice by spending the day with an Iowa physician. The theory behind the program? It's easier to judge a man when you've walked a mile in his shoes.

The highly-successful program is in its third year. Through the efforts of the IMS Auxiliary, 26 mini-internships with Iowa physicians were arranged for state legislators this fall. The week following Senator Boswell's visit, Dr. Young also hosted State Representative Horace Daggett.

"I heard about this program from another senator who said it was great," commented Senator Boswell, who is chairman of the Senate Appropriations Committee and a farmer by trade. "On a scale of 1 to 10, I'd give this experience a 10."

## Planned a "Normal" Day

Dr. Young made a point not to plan special activities for the senator's visit. He wanted him to see a "normal" day. The day started early, with a breakfast meeting of the hospital's utilization review committee. Then it was on to hospital rounds. The remainder

of the day was spent seeing patients in the clinic.

"Senator Boswell is an experienced legislator. He would have known right away if I started lobbying him. I decided it was better

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*'I've always thought being a physician was an awesome responsibility. I was right.'*

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to let my day-to-day activities speak for themselves and not try to be political," said Dr. Young. "I hope I gave him a perspective on Iowa physicians."

The perspective Dr. Young gave was apparently a good one. "I enjoyed very much the warm relations between Dr. Young and his patients," observed Senator Boswell. "I like his bedside manner."

According to Dr. Young, the Senator was "inundated" by hospital staffers who wanted to discuss health care issues after the utilization review committee meeting. Staff members at the clinic also spoke to the Senator about problems with governmental regulations and third party payers.

"They took the opportunity to air their concerns," revealed Dr. Young, smiling. Senator Boswell was happy to listen, and was favorably impressed by the utilization review committee.

"They were very sincere about reviewing each other's work," commented Senator Boswell.

## A Look at Paperwork

The Senator did not get a positive impression when clinic staff showed him the





Senator Leonard Boswell (left) with Dr. Mark Young and patient Amy Teutsch.

mounds of paperwork required for patients in Title 19 and other programs.

Obviously, there's room for improvement," he said. "I don't know if I can do anything about it, but I'm sure aware of it now." Senator Boswell says he's also very concerned about other factors — particularly Medicare reimbursement — which discourage physicians like Dr. Young from practicing in rural Iowa.

Dr. Young and Senator Boswell enjoyed each other's company and even discovered a common interest in fishing.

"We touched on a lot of different topics," said Dr. Young. "It was great to have him here — sometimes you feel like your lawmakers are far away and inaccessible."

"I'll definitely sign up for this program again next year," commented the Senator. "I've always thought being a physician was an awesome responsibility. I was right."

At the end of their day together, Senator Boswell invited Dr. Young to come to the Statehouse and observe the lawmaking process.

"If you have the stomach for it," he joked.

*The other side of the coin...*

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# Health Care Issues will be Overshadowed in 1992

CLARENCE H. DENSER, JR., M.D.  
Des Moines, Iowa

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***The ailing budget and upcoming elections will dominate the 1992 session of the Iowa Legislature, says the chairman of the IMS Committee on Legislation.***

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THE 1992 SESSION OF THE IOWA General Assembly is expected to be a short one dominated by budget battles and preoccupation with campaigning in new districts in the upcoming elections.

While physicians are as concerned about the state's fiscal health as other Iowans, there are several budget areas of specific interest to the medical community.

Reimbursement affects our ability to serve Medicaid patients. Setting reimbursement at a level which at least covers practice costs is an important factor in making sure we can continue to serve these patients. Most non-nursing home Medicaid patients are mothers and young children or pregnant women. Access to care (or lack of it) for these groups has a long-term impact on the health of many Iowans.

Funding for Board of Medical Examiners activities not only affects the BME's ability to perform disciplinary functions, but directly

affects their ability to issue licenses in a timely manner to physicians locating in Iowa. For those among us who have gone to considerable time and expense to recruit a new partner and for people living in communities that need more doctors, an efficient licensing process is critical. BME activities are funded from physician license fees, but any money spent still must be appropriated by the legislature and approved by the governor.

Collection of vital statistics and disease and injury reports and many other routine health and safety activities of the Department of Public Health need sufficient funding to be effective. Health related programs compete for a fair share of limited state funds with a multitude of other interests.

All state agencies and programs were affected to some degree by the 3.25% across the board cut and last summer's reduction in workforce. It has become increasingly difficult to find places to limit state expenditures without eliminating operations and programs. Both the governor and the legislature have committees examining state operations to look for ways to deliver services more efficiently. At this writing, recommendations hadn't been issued.

## ***Medicaid is Key Issue***

IMS priorities for 1992 reflect the political conditions of the state.

At the top of the list is Medicaid reimbursement for physician services. The IMS urges legislators to bring overall physician reimbursement at least up to the July 1, 1990 level (the level before the rollback) and fur-

ther improve reimbursement for obstetrical and pediatric services. Under federal law, all federal Medicaid funds are jeopardized if the state does not maintain access to OB and pediatric services by meeting certain criteria. The IMS is monitoring this situation closely.

The IMS also recommends eliminating copayments for Medicaid physician services.

### ***Medicaid 'Bootstrapping'***

A Medicaid tax scheme similar to those enacted in other states may be on the legislature's agenda. These plans, known as "bootstrapping" in legislative jargon, draw additional federal Medicaid matching funds by taxing Medicaid providers, reimbursing providers in some way for the amount of the tax and submitting the reimbursed tax amount to the federal government as a state expenditure for the purpose of receiving the federal match.

There is big money at stake; in Iowa this fiscal year for every \$100 spent for Medicaid \$35.37 is paid from state funds and \$64.63 from federal funds. Therefore every \$1.00 the state spends for Medicaid brings in about \$1.83 from the federal government. State spending alone for Medicaid this fiscal year is expected to be \$241,529,589.

The Health Care Financing Administration (HCFA), the federal agency responsible for Medicaid, is trying to eliminate these tax schemes but has strong opposition from states who depend on the additional federal funds. The IMS does not believe bootstrapping is a solution to the state's fiscal problems, especially in the face of HCFA's opposition, administrative costs and the increased administrative burden on providers.

Scope of practice issues for limited health care practitioners are also at the top of the IMS priority list. We will again be working to establish a commission to provide objective information to legislators on proposals to expand the scope of practice of limited health care practitioners.

Also on the agenda again is the pending legislation to allow nurse anesthetists to prescribe. The IMS will continue to oppose this proposal since patient safety requires that a fully-trained physician have overall responsibility for care of the patient. Extending prescribing privileges to nurse anesthetists is un-

## **IMS Legislative Priorities**

### ***Medicaid***

Improve reimbursement, especially for OB and pediatrics  
Eliminate copayments  
Oppose "bootstrapping" tax scheme

### ***Scope of practice***

Establish commission to study scope of practice issues  
Oppose prescribing by nurse anesthetists

### ***Liability***

Immunity for free medical care to indigent

necessary since a physician is always present to prescribe drugs needed in surgery.

### ***Tort Reform on Hold***

Little activity is expected on liability issues. The legislative climate in Iowa and other states is not good for major tort reforms. However, in response to direction by the 1991 House of Delegates, the IMS is proposing legislation to provide immunity from liability for retired physicians who provide free medical care to the indigent. Free care provided by actively practicing physicians is already covered under their usual liability insurance policies. We don't know yet how this proposal will fare in the 1992 legislature.

Many other issues may capture legislators' and lobbyists' attention. Continuing publicity has kept AIDS issues on the minds of state legislators. The U.S. Congress says state health departments are responsible for

*(Continued next page)*

ensuring guidelines similar to those issued by the Centers for Disease Control are in effect. The IMS will work within IMS policy to ensure legislative decisions on these issues are based on facts and scientific evidence rather than emotion.

Tobacco issues will probably be fairly quiet after the IMS and other Tobacco-Free Coalition members (primarily the American Lung Association, American Heart Associa-

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*'Small victories occur almost daily because legislators know our lobbyists represent constituents who care enough to get involved.'*

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tion and American Cancer Society) successfully lobbied for the Adolescent Tobacco Use Prevention Act in 1991. However, the tobacco industry in some states has pushed for "smokers' rights" legislation to protect smokers for civil rights and employment law protection similar to existing antidiscrimination protections for minorities, women and the disabled.

### ***Sensitivity to Voters***

Because of the redistricting plan adopted in 1991 which affects both state legislative and congressional districts, legislators who choose to run again will be more sensitive than ever to how issues play at home. Some legislators find themselves living in districts which are almost completely different. Some of the new districts now contain more than one senator or representative.

Changes have already begun to occur. Some legislators have moved to a new district where there is no incumbent legislator. Others will voluntarily retire from the legislature. Still others will fight it out in the primary or general election with another incumbent in the same district. There is much insecurity among legislators with significant changes in their district boundaries.

Because of these changes and increased sensitivity to voters' concerns, especially voters in their new districts, this may be an especially good time to work with your legisla-

tors from your current district and your new district. It is also a good time to offer to campaigning for a legislator who has been helpful or to improve relations with one who hasn't. If you don't know who your state legislators are, call IMS public affairs staff.

The IMS Legislative Contact Program will again play a key role. Efforts by Legislative Contact Persons were instrumental in success on the Adolescent Tobacco Use Prevention Act and other IMS priorities in 1991. Small victories occur almost daily when IMS lobbyists persuade legislators to modify bills to help prevent negative effects on physicians. They achieve these successes because legislators know our lobbyists represent constituents who care enough to get involved. Even when no results are apparent, contacts from local physicians, their families and office managers build relationships that will have a positive impact in the future. There is always next time!

If you are interested in becoming more active in the IMS legislative program, contact IMS public affairs staff.

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Mary Hoppa, M.D.



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# Legislative Process is an Eye-Opener for Young Physician

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*There is much to be learned through serving on an IMS committee. However, this month's author says answers to the toughest questions facing medicine are getting harder to find. Dr. Hoppa has been a member of the IMS Committee on Legislation for 2 years.*

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**During your term on the IMS Committee on Legislation, what have you learned about the Society's legislative program and the lawmaking process?**

I have served only a short time on the committee, but I have learned it takes much longer than I realized to enact health legislation. I understand why legislating major issues such as tort reform and scope of practice would take significant time and energy; I had not anticipated that issues involving public safety and health would take so much effort.

Adolescent smoking prevention, motorcycle helmet laws and funding for prenatal care and childhood immunizations are all aimed at improving public health. Yet, these issues take an inordinate amount of time to research, debate and finally vote upon.

**Why are you interested in how legislation is created and enacted?**

I believe we must understand the rules before we play the game. We must know the basic principles of how legislation is enacted if we are to have a significant impact on health care legislation. We must demonstrate to the legislators our concern regarding all facets of health legislation so they will allow us to have a greater input into development of appropriate laws. Legislation on HIV/AIDS is a good example of why we need to try harder to make sure health care legislation is appropriate.

We also need to take a more public stand on health care legislation. Physicians have a tendency to express their interest in the public's health through their own patients and not in a public forum. The majority of people like their own physician but their opinions of physicians in general are not as good. We need to show the public and politicians that the medical community has always been interested in Iowa's health policies.

**How can we strike a proper balance regarding resources expended on health care?**

Neither the medical community nor the legislature will be able to resolve this question

*(Continued next page)*

alone. What level of health care can society afford? Until the public clearly understands that medical costs will not go down until demands on the system are reduced, any solution will not be acceptable to most people. People want the "Cadillac of care" at Chevrolet prices.

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*'We must demonstrate to the legislators our concern regarding all facets of health legislation so they will allow us to have a greater input into development of appropriate laws.'*

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Most Medicare funds are spent during the last 6 months of an enrollee's life. We have technologies which increase quality and quantity of life, but they are expensive. At what point do we limit the use of these technologies? Are we going to need to ration medical care to

cut costs? Or, do we need to "rationalize" rather than ration care?

This will be the hardest decision for legislators, physicians and the public. We must give medical direction as these decisions are made.

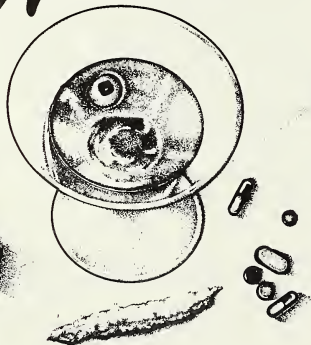
#### **What do you hope to accomplish through the IMS Committee on Legislation?**

I hope to become familiar with the legislative process and better acquainted with legislators who influence health care issues. Eventually, I hope to have an impact on what kinds of health care bills are enacted. Currently, I have met only my first goal.

I hope also that other young physicians become involved in this process. We are led by many knowledgeable physicians, but we need more young physicians since we will deal with these issues on a long term basis.

When you are given the opportunity to serve on an IMS committee, take the ball and run with it. Learn while serving on the committee, and use that knowledge to better serve your patients.

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## Letter to the Editor

### "Babies at Risk" Issue Timely and Comprehensive

Dear Editor:

As Iowa looks ahead with respect to its share of the American struggle with substance abuse, certainly one of its most serious, and from a public point of view, less well understood aspects, is the "fetal syndrome."

The September issue of *IOWA MEDICINE* concerning this sinister threat was up to its award winning status with its forthright, timely, comprehensive consideration of the matter for a most important audience. — *Mike Forrest, Iowa Drug Enforcement and Abuse Prevention Coordinator, Governor's Alliance on Substance Abuse.*

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## Recent Books

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Coughlan, Michael J., 1990, *The Vatican, The Law and The Human Embryo*, University of Iowa Press, Iowa City, Iowa, paperback, \$8.95. This 125 page monograph is heavy reading. The author in a meaningful manner examines the varied viewpoints of the treatment of the human embryo. Starting with the concepts of the Catholic church the reader can view broader religious concepts; from there to other philosophic viewpoints and then to some extent a tie-in with legal ramifications. The reader can be only stimulated to develop conclusions suitable to a personal viewpoint.

Shtasel, Philip, 1991, *Medical Tests and Diagnostic Procedures: A Patient's Guide to Just What the Doctor Ordered*, Harper-Collins Publishers, New York, New York, paperback, \$10.95. The introduction poignantly demonstrates by way of patient-doctor dialogue what has long been a criticism of our profession: what did the doctor say? This guide helps patients understand the what, why, how and where of various tests and procedures. Jargon is translated to simple English. The glossary and index add considerable value to the book.

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## Holiday Greetings

*Warmest thoughts  
and best wishes  
to you and your family  
this holiday season.*

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**HIV IN IOWA: IMPACT ON THE  
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**TOPICS**

**"THE MYTHS AND THE FACTS OF HIV RISK TO  
HEALTH CARE WORKERS"**

**"MOLECULAR VIROLOGY/IMMUNOLOGY OF HIV  
INFECTION AND ANTI-RETROVIRAL THERAPY"**

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# Pericardial Patch Angioplasty

DANIEL WATERS, D.O.  
TIMOTHY THOMSEN, M.D.  
Mason City, Iowa  
NICHOLAS ROSSI, M.D.  
Iowa City, Iowa

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***The authors describe the case of a man with severe left coronary ostial stenosis who was treated with direct left main angioplasty with a pericardial patch. This approach may be superior to artery bypass grafting in certain patients.***

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IN A SMALL NUMBER OF PATIENTS with coronary artery disease (CAD), stenosis is limited to the left main coronary artery (LMCA) or its ostium, without significant involvement of the distal arterial tree.<sup>1</sup>

In the modern era of coronary surgery, the standard treatment for revascularization in these patients has been coronary artery bypass grafting (CABG) utilizing saphenous vein or internal thoracic artery conduits.<sup>2</sup> This procedure has been carried out with acceptably low mortality and morbidity.<sup>2,3</sup> The patency of coronary bypass conduits, however, has been

shown to vary and a percentage of individuals require another operation for progressive graft atherosclerosis.<sup>4,5</sup>

In patients with isolated LMCA lesions, a renewed interest in direct surgical angioplasty has arisen.<sup>6-8</sup> This article describes the case of a 52-year-old man with severe left coronary ostial stenosis who was treated with direct left main angioplasty with a pericardial patch. This approach may provide a superior alternative to CABG in selected patients with isolated left main coronary lesions.

## Case Presentation

A 52-year-old white male with no prior history of cardiac disease was admitted to St. Joseph Mercy Hospital with complaints of precordial chest pain and dyspnea. Initial electrocardiograms did not reveal an acute infarction, but a graded exercise stress test was significantly abnormal and the patient underwent coronary artery catheterization.

The angiogram revealed normal left ventricular function and a normal, dominant right coronary artery (RCA). The left main coronary artery showed some irregularity and a tight ostial stenosis. The proximal anterior descending artery (LAD) had some irregularity but no significant stenosis. The remainder of the left coronary tree appeared free of disease.

The patient was taken to surgery. Median sternotomy was carried out and total cardiopulmonary bypass instituted. The pulmonary artery was divided to allow exposure of the LMCA. An arteriotomy was made on the anterior LMCA and extended proximally through the coronary ostium and onto the aorta. No attempt was made at coro-

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Dr. Waters and Dr. Thomsen are with the Mercy Heart Center, St. Joseph Mercy Hospital in Mason City. Dr. Rossi is with University of Iowa Hospitals and Clinics.

nary endarterectomy. A portion of autologous pericardium was fashioned into a patch and attached to the LMCA and aorta using a continuous non-absorbable suture.

The pulmonary artery was reconstructed (Figures 1 to 4). The patient was separated from cardiopulmonary bypass without difficulty. S-T segments were isoelectric after bypass. The patient did well and was discharged on the sixth postoperative day. Postdischarge electrocardiograms and a graded-exercise and thallium perfusion scan were normal.

## Discussion

In 1983, Hitchcock reported on a series of patients with isolated LMCA disease treated with direct surgical angioplasty.<sup>6</sup> Other series followed

with encouraging results.<sup>7,8</sup> The direct approach to LMCA disease dates back to the early days of coronary surgery and usually involved coronary endarterectomy with patch closure. The high operative mortality and subsequent development of the saphenous vein bypass led to virtual abandonment of the operation.<sup>9</sup> Modern improvements in cardiopulmonary bypass and myocardial protection (cardioplegia) resulted in a new interest in this approach.

The direct angioplasty technique may allow for a more physiologic perfusion of the myocardium in this setting by obviating the need for retrograde flow to some vessels. This retrograde flow pattern has been associated with decreased perfusion pressure according to the so called "prizometer principle."<sup>6</sup> In addition, the absence of bypass conduits may

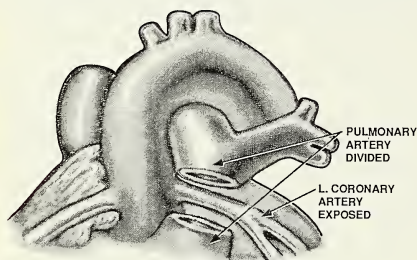


Figure 1: The main pulmonary artery is divided exposing the origin and course of the left main coronary artery.

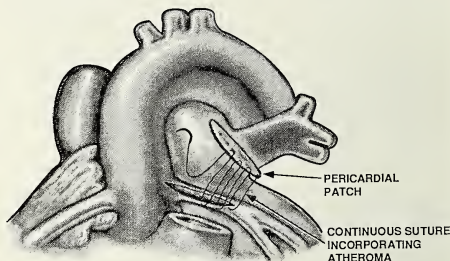


Figure 3: A portion of autologous pericardium is used to patch the LMCA, effectively increasing the caliber of the ostium and artery.

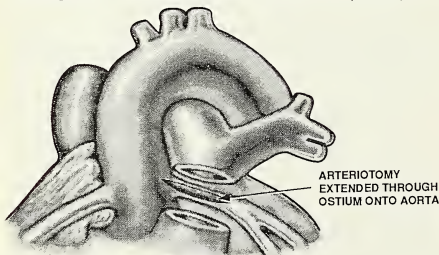


Figure 2: The LMCA is incised anteriorly and the incision carried through the ostium.

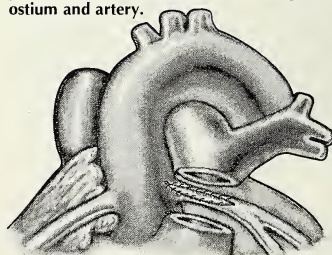


Figure 4: Patch closure completed; the pulmonary artery is then reapproximated.

have a beneficial effect on the durability of revascularization, although long-term follow-up (>10 years) in these patients has not yet been documented.

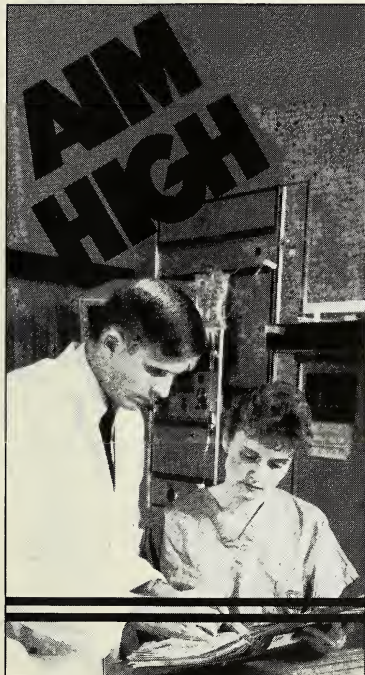
The technique utilized here was developed and has been used successfully at the University of Iowa. Their encouragement and assistance has allowed the procedure to be brought to patients in northern Iowa. We have performed this operation on 2 other individuals.

Isolated left main coronary stenosis is relatively rare. In one large study, it comprised less than 1% of patients.<sup>3</sup> Proper patient selection is vital and involves preoperative as well as intraoperative evaluation of the coronary tree. It is hoped that as long-term results become available, this technique will be a successful and durable alternative to bypass grafting in this

unique group of patients with coronary artery disease.

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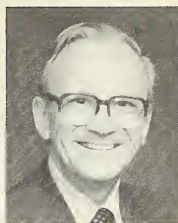


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## The Editor Comments

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Marion E. Alberts, M.D.



# Volunteerism is Good For the Soul

*And wisdom's self  
Oft seeks to sweet retired solitude,  
Where with his best nurse, Contemplation,  
She plumes her feathers, and lets grow her wings.*  
—John Milton; *Comus*, l.375  
(English epic poet, 1608-74)

**O**FTIMES THE END OF A YEAR is a time for contemplation. Such contemplation may be centered on personal matters; some on worldly events.

Many of my readers are aware that for the past 2 years I have served as a volunteer gardener at Living History Farms. Living History Farms near Des Moines may be described as a museum of Iowa life from the 1700s through the 1800s, with a glimpse into the future. The most striking exhibit area, in my estimation, is an 1875 village wherein stands the beautiful victorian Flynn mansion. On the grounds of the mansion, I have had the pleasure of caring for various flower gardens and a fairly extensive herb garden. The closeness to nature, the feel of the texture of the soil and the aroma of the flowers and herbs is a true delight.

Several days ago, I had a thought that offered to me an opportunity to contemplate where I was and what it meant. I really enjoy what I am doing at the Farms. Sometimes the work has been hard and the sunshine unrelenting, but the rewards have been satisfying.

My pediatrics practice likewise was at times hard labor, the "heat" often nearly unbearable and the rewards satisfying. However, one major difference exists. My volun-

teer work does not require the endless paperwork required in the practice of medicine — no insurance forms, no government forms and no rendering of bills. My compensation as a volunteer is the satisfaction of doing something for the enjoyment of others and for myself. Instead of guiding the growth and development of children, I oversee the growth and development of beautiful flowers and aromatic herbs.

As in medicine, there is a continuing learning process. I have engaged in modest gardening for many years, but now must reflect on the great amount of new knowledge I have gained, especially regarding the character of herbs and the many myths about their uses. I look forward to learning more based on recent additions to my library.

Planting and caring for thousands of flowers and a hundred different herbs has renewed my respect for the elements. Rains delayed planting, dry periods required repeated watering. The weeds ("plants without friends") thrived and had to be dealt with severely. The early (6:30-7:00) morning hours were especially enjoyable — quiet, peaceful and interrupted only by the singing of the many birds and the chattering of squirrels. Those hours were very conducive to contemplation of the joyful wonders of our universe.

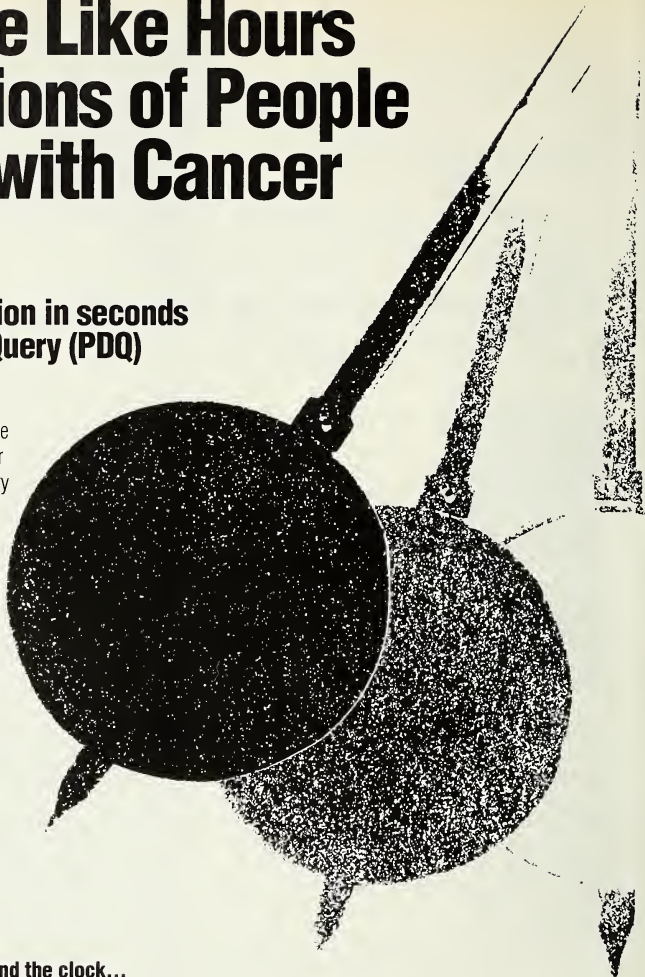
Contemplation is good for the soul. I highly recommend volunteer work. If you are retired, do not waste all your time playing or watching television. There are so many things to be done and giving your time and efforts can be very satisfying.— M.E.A.

# Seconds Are Like Hours for the Millions of People Diagnosed with Cancer

## Access hours of information in seconds with the Physician Data Query (PDQ) service of the NLM

The National Library of Medicine (NLM) has the most extensive and up-to-date library of cancer information available. The Physician Data Query (PDQ) is an on-line computer file that provides state-of-the-art cancer treatment and referral information—in minutes. Sponsored by the National Cancer Institute, PDQ contains files on cancer treatment, physicians and organizations that provide cancer care, and ongoing treatment protocols.

PDQ is one of two cancer databases available from the NLM. Information can be accessed around the clock, seven days a week.



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Richard M. Caplan, M.D.



## Sticks, Stones and Words

*Sticks and stones may break my bones  
But words can really hurt me.*

**M**AYBE THAT'S NOT QUITE the way you remember the childhood taunt, yet this version may be closer to the truth. As an example, consider these adjectives: exponential, skyrocketing, spiraling, zooming. Nothing wrong with them; in fact, they create powerful images. They could be effective when used correctly and sparingly. But don't you grow as weary as I to find them preceding the phrase, "costs of health care" almost every time you see or hear that phrase in the public media? Well, nobody claimed that most newspaper writers have H.L. Mencken's interest and facility with words. It probably wouldn't do any good to point out to those writers, editors, readers or listeners that those terms can properly describe what is headed downward as well as upward.

And yet, don't you feel at least a little stung, maybe even a bit angry, when you encounter that clichéd image? Maybe the defensiveness I'm exhibiting now as I write comes from the feeling that my fellow physicians and I are truly a part of the problem. Even so, we get more than our proper share of the "take-home blame." Would much be changed if the adjectives were replaced by "rising," "increasing," "climbing," "elevating" — at least those words truly indicate an upward direction, but without the sense of being extreme, radical, unwarranted. And when "skyrocketing costs" enters the legislative and ne-

gotiating jargon, be sure it will influence policy more powerfully than "rising costs."

A recent issue of the *NEJM* (June 6, 1991) began with 2 articles describing the successful use of radiofrequency current, applied from the tip of a catheter guided into the heart, to destroy accessory atrioventricular pathways that were causing paroxysmal ventricular tachycardias (including Wolff-Parkinson-White syndrome). The series reported a large experience (166 and 106 patients) with apparent cure in excess of 90% and a complication rate around 2%. An accompanying editorial voiced some appropriately conservative reactions, while suggesting that equipment, techniques and success will even improve.

To one like me, whose knowledge of the bundle of His, intracardiac catheters and low-voltage high-frequency alternating currents is long ago and far away, these reports screamed at me about *spiraling progress* and *zooming achievements* — and I mean motion that is upward and forward. Those dramatic adjectives seem to me appropriate in this context, but I fear they are too firmly glued to "costs," just as "mashed potatoes and \_\_\_\_\_" never evokes thoughts of asparagus, turnips or even Hollandaise sauce, but only "gravy."

Wouldn't His have been impressed with these reports? But he'd probably recognize at once that any society that expects — even demands — medical progress in general, plus prompt application of that progress to its personal ailments, would also expect to pay for it.

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Dr. Caplan is Coordinator, Program in Medical Humanities at the University of Iowa College of Medicine.





# PREVENTION

## THE WRONG LEGISLATION COULD BE A BITTER PILL TO SWALLOW

**SYMPTOMS:** Acute distortion by the medical liability system. Persistent lobbying by trial lawyers for legislation to destroy the liability reforms passed in Iowa. Chronic fingerpointing by some elected officials and special interest groups trying

scapegoats for increasing healthcare costs. **DIAGNOSIS:** A malignant growth on the health care system caused by toxic legislation. **IS THERE A DOCTOR IN THE SENATE? PROGNOSIS:** If the medical profession and other concerned

to make doctors **THE HOUSE . . . OR** citizens are not vigi-

lant, our fine medical system – the best in the world – will be in danger of being “cures”. **TREATMENT:** A strong dose of support for your voluntary team of

crippled by ill-advised physician representa- Political Action Commit-

tives and professional lobbyists, through your membership in the Iowa Medical Association (IMPAC) and the American Medical Political Action Committee (AMPAC). **PREVENTION:** Funds raised through IMPAC and AMPAC from PERSONAL CONTRIBUTIONS go directly, 100%, to help legislators and candidates for office who support us on key medical issues. Mail your PERSONAL check today using the coupon below to ensure a healthy future for legislation that affects your patients, your profession and your future!

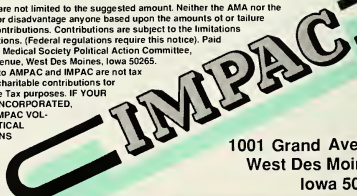
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# Incomplete Documentation in Ambulatory Settings

THE IOWA FOUNDATION FOR MEDICAL CARE (IFMC) reviews record documentation of all cases selected for retrospective review. Documentation in the medical record is often incomplete. Medical records are complete when appropriate tests, evaluations and questions have been performed/answered and the information is provided in the medical record.

This information (e.g., the history and physical) should be in the physician's office records and the medical record at the facility where the procedure will be performed. It is the responsibility of the physician and the facility to ensure adequate documentation.

Facilities are responsible for filing medical records and must ensure the records are complete when a patient has surgery so that current information is available if complications arise. This would also prevent the IFMC from contacting the physician/facility and assigning a quality concern for lack of documentation.

This composite case identifies the concerns generated by insufficient medical record documentation.

## Case

A 69-year-old male's preoperative laboratory work prior to cataract surgery revealed a blood sugar of 325. The patient had a history of diet-controlled diabetes.

A week later, the cataract surgery was completed and the patient was dismissed home without complications.

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This article was written by David Thomas, M.D., a family practitioner in Marshalltown. Dr. Thomas is chairman of the IFMC's Comprehensive Review Committee.

## Reviewer Comments

Lab information documented in the medical record showed the patient's blood sugar was 325 one week prior to surgery. The medical record showed no subsequent evaluation of the elevated blood sugar nor was there any documentation of a blood sugar drawn the day of surgery. Also, the medical record contained no discharge assessment or instructions documented by the nurse or doctor.

A follow up blood sugar should have been performed the day of surgery. Absence of adequate blood sugar evaluation could have re-

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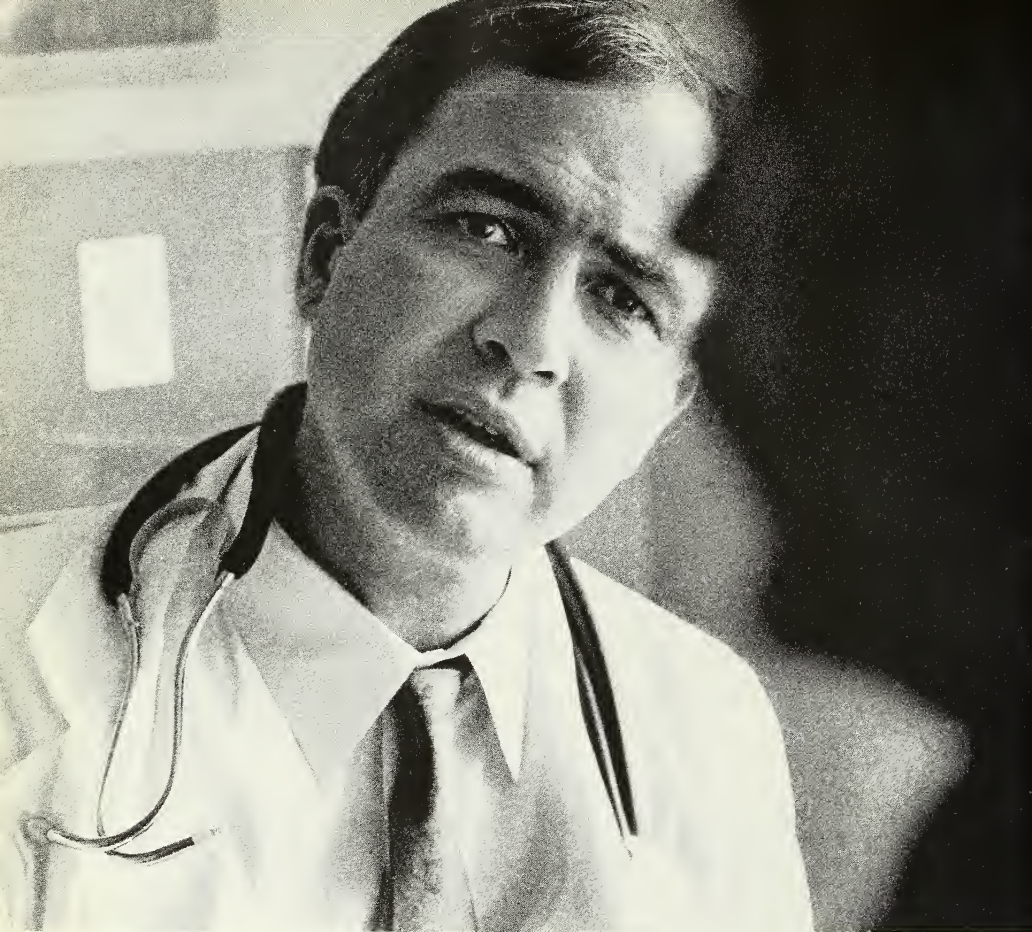
*'It is the responsibility of the physician and the facility to ensure adequate documentation.'*

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sulted in hyperglycemia due to IV fluids and complications the day of surgery. Further, blood sugar evaluation and documentation resulted in a quality concern with a severity level II: quality problem with the potential for significant adverse effect(s) on the patient.

The lack of a documented discharge assessment and instructions resulted in a quality concern with a severity level I: quality problem without the potential for significant adverse effect(s) on the patient.

Only one quality level is assigned to each case, always the highest level. Therefore, this case was assigned the higher quality level (level II).



## "We must make sure that policies are based on facts, not fears."

Dr. Paul Volberding, Researcher, University of California, San Francisco, Member, American Medical Association

Amid the rancor of politics and budget debates, the needs of the patient are often overlooked. And, it is forgotten that it is physicians who know the most about disease and the suffering of patients.

Nowhere is this more true than with AIDS.

"Throughout the history of epidemics, there has been the possibility of reactions and policy based on fear and stigma," states Dr. Volberding.

The American Medical Association (AMA) agrees. The AMA is committed to fair AIDS policies, and to supporting researchers battling not just AIDS, but the countless diseases that ravage our society.

"What impresses me most about the AMA is its

willingness to take public policy positions and its ability to influence opinion," Dr. Volberding adds.

You are invited to join Dr. Volberding and to join with him in his efforts to bring quality health care to those in need. Become a member of the American Medical Association today.

Members of the AMA are encouraged to join their state, county and specialty societies.

### American Medical Association

Physicians dedicated to the health of America



## Medical Waste — Perceived Risk

THE ISSUE OF MEDICAL WASTE has generated anxiety and concern since syringes, intravenous tubing and catheters washed ashore on east coast beaches in the late 1980s. Publicity surrounding the theoretical risks of exposure has prompted demand for waste management legislation. However, most of the risk from medical waste is perceived and not actual.

A more accurate term than medical waste would be biological waste because the infective agent is carried in biological tissues and/or fluids from one person to another. While so called medical waste is generated in health care institutions, it is generally well segregated, treated, packaged, stored, transported and disposed in an approved manner. Household waste contains the same biological materials, e.g. blood, pus and nasal secretions, but is not so carefully managed. Even so, disease transmission via household waste has been a very minor, if at all, source of infectious disease.

Some waste generated in hospitals — sharp objects, cultures and stocks of organisms and body parts — is classified as infectious. Only about 15% of waste generated by hospitals meets the Environmental Protection Agency's definition of infectious waste and needs to be rendered non-infectious prior to final disposal. Acquiring infectious disease from medical waste has not been shown to be a risk to the public and is a risk to the health care worker only when recommended techniques have not been followed.

Infectious waste has traditionally been made non-infectious by either incineration or autoclaving. Incineration reduces the amount of waste but results in air pollution when incinerators are not functioning properly. Also,

there is a tendency for incinerator operators to burn large amounts of waste that is not infectious like computer paper, food service waste and ordinary waste paper.

Autoclaving does not pollute the air other than producing unpleasant odors. It also does not reduce the size of waste being decontaminated. A well-conceived educational program on management of medical waste by the Iowa Department of Natural Resources and the Iowa

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*'Publicity surrounding the theoretical risks of exposure has prompted demand for waste management legislation. However, most of the risk from medical waste is perceived and not actual.'*

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Department of Public Health as directed by the Iowa Code 455B.501 and enforcement of incinerator operational standards should alleviate the public's fears of disease from medical waste and ease the pollution from improperly functioning incinerators.

A number of national organizations, with scientific expertise including the Environmental Protection Agency, AMA Council on Scientific Affairs, American Hospital Association, Joint Commission on Accreditation of Health Care Organizations, Agency for Toxic Substances and Disease Registry and the Centers for Disease Control have agreed that enforcement of current regulations should be adequate to ensure the public and environment are not endangered. A number of national authorities on infectious disease endorse this opinion.

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This article was written by Laverne Wintermeyer, M.D., state epidemiologist and medical advisor, IDPH.



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## College of Medicine Highlights

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**DR. PAUL SEEBOHM, CONSULTANT TO THE DEAN** of the College of Medicine and former president of the Iowa Medical Society, was awarded the Distinguished Alumni Award from the University of Cincinnati College of Medicine. Seebohm was recognized for his contributions as a scientist, physician, teacher and administrator during his 40-plus years at the UI. Among his leadership roles, Seebohm served as president of the State Board of Health from 1976 to 1983 and was elected president of the American Academy of Allergy and Immunology in 1966. In 1970, as associate dean, Seebohm initiated a program to correct the manpower shortage and maldistribution of physicians in Iowa. He chaired the feasibility committee that set up the UI Department of Family Practice and headed the legislative effort to establish the Statewide Family Practice Residency network in medical centers throughout the state, and its implementation through the College of Medicine's Office of Community Based Programs.

**DR. CAROL A. ASCHENBRENER, EXECUTIVE ASSOCIATE DEAN**, has been elected to a 3-year term on the Council on Medical Education of the American Medical Association. The 12-member council studies, evaluates and makes recommendations on all aspects of medical education, including undergraduate, graduate, continuing medical education and allied health sciences.

**DR. RICHARD CAPLAN, DERMATOLOGY**, a regular columnist for *IOWA MEDICINE*, has stepped down from the position of associate dean for continuing medical education after heading that office for 22 years. He continues in the College's medical humanities program, of which he became the first coordinator in 1981, and as professor of dermatology. **Dr. Richard Nelson, pediatrics**, who joined the faculty in 1987, succeeds Caplan. The CME program conducts more than 200

programs serving 12,000 registrants in some 40 Iowa counties each year. Also, more than 100 additional presentations are given around the state by faculty members. About 70% of Iowa practitioners take part in College of Medicine CME programs.

**THE SPREAD OF PROSTATE CANCER CAN BE DIAGNOSED** with a new, less invasive diagnostic technique, reports **Dr. Howard Winfield, urology**. Traditionally, a large surgical incision has been required to remove the pelvic lymph nodes to determine if cancer is present. The new procedure, called laparoscopic pelvic lymph node dissection, removes the nodes in a minimally invasive way that requires only 4 small incisions. Winfield presented the information at the annual meeting of the American Urological Association in Toronto in June. **Drs. James Donovan, Stefan Loening and Richard Williams, urology**, collaborated in the study.

**WOMEN WHO CONSUME LITTLE CALCIUM AND VITAMIN D** may have an increased risk of stroke, report **Drs. Ronald Munger and Robert Wallace**, both of preventive medicine and environmental health. In a 2-year study of nearly 42,000 Iowa women aged 55 to 69, the risk of stroke was 4.3 times greater among those who consumed low amounts of nutrients compared with those who consumed high amounts. Women whose intake of only calcium was low, faced a risk of 2.1 times greater, and women with low vitamin D intake, a 1.7 times higher risk. Researchers are continuing to study the connection and are not yet advocating that women change their diet or begin taking supplements.

**ALL VEHICLES RESPONDING TO CARDIAC EMERGENCIES** should be equipped with a portable defibrillator, a device that shocks the heart into beating normally, urged a special committee of the American Heart Association. **Dr. Richard Kerber, internal medicine**, is chair of the AHA emergency cardiac care committee and author of the statement

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This material is furnished by the U. of I. Health News Service.



published in the AHA's scientific journal *Circulation*. New automatic defibrillators, which cost \$4,000 to \$6,000, have proved highly effective when used within 3-4 minutes in life-threatening cardiac emergencies. While larger cities are equipping emergency vehicles with defibrillators, many smaller cities and towns have not. For that reason, early defibrillation is the weakest link in the cardiac care "chain of survival." **Dr. Donald Brown, internal medicine**, is also a member of the committee.

**IOWA CONSUMPTION OF WINE AND HARD LIQUOR** has not increased since the mid-1980s, when retail stores began selling the beverages. **Dr. Harold Mulford, psychiatry**, charted wine and spirit sales from January 1980 through May 1990. He found that although sales did increase immediately following the privatization of wine in 1985 and of hard liquor in 1987, sales of both have since declined to pre-privatization levels. "The study findings offer compelling evidence that increasing the availability of alcohol does not necessarily increase its consumption," Mulford says. The study will be published in 1992 in the *Journal of Studies on Alcohol*.

**THE CARL J. HERZOG FOUNDATION, INC., OF STAMFORD**, has donated \$1 million to the department of dermatology. Half of the gift will help endow a chair named in honor of **Dr. John S. Strauss, head of dermatology**, and the other \$500,000 will endow a dermatology research fund. Both gifts will be channeled through the UI Foundation and will be used in the College of Medicine to support activities that advance the training of new specialists and promote medical knowledge and patient care in the field of dermatology.

**AN ONGOING EFFORT AT THE UI TO MAP HUMAN CHROMOSOME 4**, where genes including those for Huntington's disease and a form of muscular dystrophy are located, has received a boost with a \$177,000 grant to **Dr. Jeffrey Murray, pediatrics**. The study is part of the international Human Genome Project, which seeks to map all 23 pairs of chromosomes and to eventually describe the locations of the estimated 50,000 to 100,000 human genes. The project is funded by the National Institutes of Health through the Human Genome Program Research Center at the University of California, San Francisco. Data obtained in this study will contribute to a 5-year, \$2.2

million study also funded by the NIH and being conducted by Murray.

**SCHOLARSHIPS FOR MEDICAL STUDENTS** will be among those supported through a \$700,000 endowment from a UI graduate who spent most of her professional life educating mentally and emotionally disturbed children. The gift to the UI Foundation will also provide scholarships for students in law and education. The giver, **Helen Macklin Nichol, Des Moines**, earned a degree in history in 1923.

**THE 15TH ANNUAL FAMILY PRACTICE OPPORTUNITIES FAIR**, held September 21 in Des Moines, brought together new physicians and representatives from 90 Iowa communities in need of family doctors. Community representatives made personal contacts with more than 60 young physicians from Iowa's Statewide Family Practice Training Program, said **Roger Tracy, director of the College of Medicine Office of Community-Based Programs**. Currently, 172 communities are seeking an additional 250 family physicians. The fair was sponsored by the Iowa Family Practice Residents Council, U. of I. College of Medicine, Iowa Academy of Family Physicians and the Iowa Medical Society.

**THE AMERICAN HEART ASSOCIATION** has awarded \$35,000 to **Kristi Ferguson and Craig Gjerde, Office of Consultation and Research in Medical Education**, to evaluate the effectiveness of a program that teaches primary care physicians state-of-the-art methods for diagnosis and treatment of high blood cholesterol and other lipid disorders. The UI Lipid Disorders Training Center, directed by **Dr. Helmut Schrott, preventive medicine and environmental health**, is a regional site serving a 7-state area and is one of 6 sites in the national program.

**JAMES ROHRER HAS BEEN APPOINTED HEAD of the Graduate Program in Hospital and Health Administration**. **Dr. James Clifton, interim dean**, announced the appointment, which was effective October 1. Rohrer, an associate professor who has been a member of the faculty since 1985, succeeds **Samuel Levey**, who has directed the program since 1977.

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## About Iowa Physicians

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**Dr. Greg Bartel** has left the Family Health Care Centers in Iowa Falls, Williams and Hubbard for medical practice with the Mayo Clinic in Rochester, Minnesota. Dr. Bartel practiced in the Iowa Falls area for 4 years. The following physicians recently joined Medical Center Anesthesiologists, P.C. in Des Moines: **Drs. Jerald Van Beck, Scott Gammel, Jerry Liu, Bryan Pearson, Daniel Waller and Kevin Percival.** Dr. Van Beck received the M.D. degree from the University of Minnesota Medical School, Minneapolis, Minnesota and completed a residency at Mayo Clinic, Rochester, Minnesota. Dr. Gammel received the M.D. degree from the University of Nebraska College of Medicine, Omaha, Nebraska and served a residency at Mayo Clinic, Rochester, Minnesota. Dr. Liu received the M.D. degree at the University of Texas Medical School, San Antonio, Texas and completed a residency at the University of Michigan Hospitals, Ann Arbor, Michigan. Dr. Pearson received the M.D. degree from the U. of I. College of Medicine and also served his residency there. Dr. Waller received the M.D. degree from the U. of I. College of Medicine and completed his residency at Ohio State University Hospitals, Columbus, Ohio. Dr. Percival received the M.D. degree at the U. of I. College of Medicine and completed a residency at the University of Nebraska College of Medicine, Omaha, Nebraska. Four Sioux City physicians have recently left Iowa to practice medicine elsewhere: **Dr. Chule Auh**, psychiatrist, to Wilmer, Minnesota; **Dr. Richard Howard**, plastic surgeon to Blue Springs, Missouri; **Dr. Earl Howells**, surgeon, to Veterans Administration Hospital, Helena, Montana and **Dr. Alan Pechacek**, orthopedic surgeon, to Jackson, Tennessee. **Dr. Jean Lorentzen** has joined Boone Medical Specialties. Dr. Lorentzen received the D.O. degree from the University of Osteopathic Medicine and Health Sciences, Des Moines and served a residency at Iowa Methodist Medical Center, Des Moines. **Dr. Timothy Miller** has joined the Mason City Clinic. Dr. Miller received the M.D. degree from the

U. of I. College of Medicine and completed a residency there also. Dr. Miller had been in private practice in Springfield, Illinois before locating in Mason City. **Dr. Steven Haas** has received board certification from the American Association of Family Practitioners. Dr. Haas recently joined Dr. Martin Bagby at Dubuque Family Practice. **Dr. Joan Olson** has joined Belle Plaine Family Medical Associates. Dr. Olson received the M.D. degree from the University of Kansas School of Medicine, Lawrence-Kansas City, Kansas and completed her residency at St. Luke's and Mercy Hospital, Cedar Rapids. **Dr. George Spellman**, Sioux City, has retired after 47 years of medical practice. Dr. Spellman received the M.D. degree from U. of I. College of Medicine and completed an internal medicine residency there also. Two physicians have joined Allen Memorial Hospital in Waterloo: **Dr. K. M. Pamulapati and Dr. Publio Ortiz.** Dr. Pamulapati received the M.D. degree from Jawaharlal Institute of Postgraduate Medical Education, Pondicherry, India and completed a residency at Nassau County Medical Center, East Meadow, New York. He has joined Cardiology Specialists, Waterloo. Dr. Ortiz received the M.D. degree from the University of Puerto Rico School of Medicine and served a residency there also. He has joined Allen Women's Health Center. **Dr. John Van Metre** has joined **Dr. Robert Kemp** at Keokuk Clinic. Dr. Van Metre received the M.D. degree at the U. of I. College of Medicine and completed his residency at the University of North Dakota School of Medicine, Grand Forks, North Dakota. **Dr. Charles Brindle**, formerly of the Sheffield Medical Clinic, has begun practice in Osage. **Dr. Gerald Felt** has joined Bluffs Urological Associates in Council Bluffs. Dr. Felt received the M.D. degree from the University of Nebraska College of Medicine, Omaha, Nebraska and served his residency at Akron City Hospital, Akron, Ohio. **Dr. Mary Schermann** has joined Bluffs Family Health Care in Council Bluffs. Dr. Schermann received the M.D. degree from the University of Minnesota Medical

School, Minneapolis, Minnesota and was in private practice in Omaha, Nebraska. **Dr. Gerald Loos** has joined the Prairie City Medical Center. Dr. Loos continues as director of Iowa Lutheran Hospital's family practice training program in Des Moines. **Dr. Richard Boeke** has retired after 23 years of medical practice in Osage. Dr. Boeke received the M.D. degree from Marquette University, Milwaukee, Wisconsin and interned at Gorgas Hospital, Canal Zone, Panama.

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## Deaths

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**Dr. Steven Moeller**, 48, Clear Lake, died October 6 at Mercy Hospital in Mason City. Dr. Moeller received the M.D. degree from the U. of I. College of Medicine and completed an internship at Grady Memorial Hospital, At-

lanta, Georgia. He practiced in Clear Lake for 20 years.

**Dr. Roscoe Needles**, 84, Atlantic, died October 11 at Atlantic Care Center. Dr. Needles received the M.D. degree at the U. of I. College of Medicine and served internships in Western Reserve University Hospitals and City Hospital, Cleveland, Ohio. He practiced in Atlantic until his retirement in 1983.

**Dr. Andre Grignon**, 43, Des Moines, died July 25. Dr. Grignon received the M.D. degree from McGill University Faculty of Medicine, Montreal, Quebec, Canada and served his residency at Royal Victoria Hospital, Montreal. He had been a heart surgeon in Des Moines for 7 years.

## Oops!

In the November issue, Dr. Robert Whinery, Iowa City, was incorrectly noted as "an ophthalmologist in Sioux City for 29 years." Sorry!



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## Defusing a Bomb

**I**T HAS BEEN ABOUT 10 years since Americans began acknowledging the existence of a sexually-transmitted disease that has implanted a time bomb in our population. AIDS has killed 120,000 Americans; 182 were Iowans.

Experts estimate the virus which leads to active AIDS has been spread to over a million carriers. These people are spreading the virus — most of them unknowingly — to millions of others through indiscriminate sex practices and sharing needles. The death toll and infection risk are rising geometrically. The primary spread of HIV is now in the heterosexual population, threatening our young people and children.

With 308 recorded cases, Iowa has not escaped the AIDS epidemic.

### *Physician Efforts*

The Iowa Medical Society's Committee on AIDS has been in existence for several years and is involved in educating physicians and making recommendations regarding AIDS issues.

However, the IMS is also part of a coalition trying to spread a very important message to Iowa's young people . . . the best defense against AIDS is prevention. Prevention only comes through awareness and education. The Iowa AIDS Network — comprised of various state and private agencies — hopes World AIDS Awareness Day will boost that educational process.

The Iowa Statewide AIDS Network believes every school child in Iowa should be taught AIDS prevention accurately and explicitly, and the group has the figures to back up this belief.

According to Elain Edge, AIDS consultant for the Iowa Department of education, a survey report of student risk behavior in Iowa has been conducted each year as part of an agree-

ment with the Centers for Disease Control. That survey will now be conducted on alternate years.

"This survey helps us identify the need for educational preventive efforts," she explains.

### *Sexually Active*

The 1990 survey results are surprising. Nearly 70% of 12th graders have had sexual intercourse; 24% of seniors have had sex with 4 or more partners. Four percent of 9-12th graders have had sex with 4 or more partners during the past 3 months.

Most frightening of all, only 20% of the 9-12th grade students surveyed said they use condoms to prevent sexually transmitted disease.

In conjunction with AIDS World Awareness Day December 1, the Iowa Statewide AIDS Network is sponsoring a number of educational efforts, including Awareness Day packets distributed by the Red Cross, an AIDS Awareness Day proclamation by Governor Branstad and interviews regarding AIDS education on local radio and television.

"Our goal is to prepare Iowans to share the challenge of AIDS awareness, compassion and prevention," concludes Ms. Edge.



December 1991

Iowa Medicine



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